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TUBERCULOSIS IN CHILDHOOD*

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The number of authentic cases reported in the literature of tuberculosis in the new-born infant is so small as to make one feel that infection of the fetus is so rare as to be of little significance in the tuberculosis campaign. There is no confirmed evidence of a tuberculous father, either among animals or in man, having transmitted tuberculosis to the fetus. We do know that a tuberculous mother who develops tuberculosis of the placenta may transmit the disease to the fetus. Calmette is of the opinion that acute febrile diseases from which the expectant mother suffers may be capable of breaking down the barrier effect of an otherwise normal placenta. If this proves to be true in the human family, it is possible that a greater number of children are infected before birth than we had ever suspected. In any event this subject should be further investigated.

In the light of what has recently been learned about tuberculous infection in infancy, it is quite possible that the fetus may tolerate tuberculous infection reasonably well. The belief that prevails at present among tuberculosis workers, however, is that practically all the tuberculosis in the human family, at any age in the entire life span, is developed by contact exposure, direct or indirect, after birth.

There is extant a general belief that a child becoming infected before the second year of life is very likely to die of tuberculosis. Careful studies, although with limited number of cases, have shown that the mortality from tuberculosis in infancy among those actually diseased is not as high as physicians formerly believed and as the public now believes; in fact, a considerable number make good recoveries. If infants have the ability to heal tuberculous disease, even as well as the present figures indicate, we must certainly agree with Krause that they also have the ability to take care of tuberculous infection much better than we formerly believed. In other words, many infants become infected but so control the bacilli that they go through life without ever developing any manifestation of tuberculous disease.

At the Lymanhurst School we now have approximately 100 children under observation who before the second year of life were found to have tuberculous infection as revealed by the cutaneous tuberculin test. This group includes not only those found to have tuberculous infection but also a few who had disease. Some of these children have been under observation for more than five years, and practically none that did not have tuberculous disease on the first examination have gone beyond the stage of infection. They are apparently perfectly healthy boys and girls. A few, however, who had tuberculous disease on the first examination have died, although the mortality in this group of 100 cases to date is less than 10 per cent. Of course, many tuberculosis workers are making similar observations; but it will be some time before enough cases will have been studied and carefully analyzed that we can be sure of the approximate percentage of infants that recover from tuberculous disease and the approximate percentage that control well their tuberculous infection.

Without such large numbers of cases, however, we feel certain that the tuberculosis mortality is higher in infancy, once the disease develops, than at any other time of life. This probably is partially due to extensive contact of the infant with the tuberculous relatives, nurses and others; and as Krause has pointed out, the structure of the lymph nodes makes them poor filters, the bacilli thus gaining entrance to the lymphatics, and the nodes allowing them for the most part to pass through to the blood stream, from there to be disseminated to the various parts of the body. In this period of life it is strongly hoped that Calmette's vaccine may prove of great value. Until it is generally accepted, however, much can be done to reduce tuberculosis mortality in infancy by preventing contact exposure through education, isolation, and the like.

From our present knowledge of tuberculosis, it appears that by far the most favorable time in the entire life span for the body to become infected is during the period of childhood (from approximately 2 or 3 years to about the age of puberty). It is during this period that the lymph nodes function as filters better than at any other period of life; consequently, a large number of children who have tubercle bacilli in their bodies are able to have them entrapped in lymph nodes. Here they may be destroyed in time or they may remain alive with little or no proliferation throughout the lifetime of the host, or they may proliferate sufficiently to cause definite enlargement of the nodes, with or without suppuration, or they may proliferate sufficiently to break down the nodes completely and later gain entrance to the blood stream.

There seems little doubt that the bacilli in a number of cases are finally completely eradicated from the body. The researches of Austrian and Krause have proved beyond doubt that this actually does occur. At the Lymanhurst School we have under observation thirty-nine cases from a group of four thousand examined which at one time gave positive cutaneous tuberculin reactions, but at present are negative. In sixteen of the thirty-nine cases there has been at some time in the past a diagnosis of tuberculosis, or physical and

* Read before the Chicago Tuberculosis Society, Feb. 10, 1927.

roentgen-ray signs that made such a diagnosis highly probable. In the remaining twenty-three cases no diagnosis of tuberculosis has ever been made to my knowledge, although in twelve of these cases there have been symptoms such as malnutrition or fever, or physical conditions indicative of cervical adenopathy. These cases are being studied by Dr. Leggett and myself and we plan to report them, with other groups of cases, in more detail at a later time. Here again so little work has been done that it is impossible for any one to state at this time how often tuberculous infection completely dies out, or how often reinfection occurs in such cases.

We have good evidence that bacilli may live for long periods in lymph nodes without causing any changes in the nodes appreciable on physical and roentgen-ray examination. In the first place we know that a fairly large percentage of apparently healthy children react positively to the cutaneous test when we are unable by physical and roentgen-ray examination to find any evidence of disease. Furthermore, the work of Calmette has shown that lymph nodes perfectly normal in appearance, when properly prepared and inoculated into the bodies of animals, frequently cause tuberculous disease. There is definite evidence that the bacilli may proliferate sufficiently to bring about considerable enlargement of the lymph nodes and then be brought under control before great destruction has occurred. Such lymph nodes may be palpated in the cervical region or they may be detected by stereoscopic roentgenograms in the region of the lung hilum.

Roentgen-ray studies have shown that such nodes may later contain deposits of calcium. Roentgen-ray evidences of calcium deposits are easily seen in the cervical and bronchial nodes and may be seen in the mesenteric nodes. Biopsy and postmortem examination often prove the presence of tubercle bacilli or tuberculous lesions. In other cases it is well known that the bacilli continue to proliferate, and there is sufficient breaking down of nodes to result in suppuration. If the nodes are located near the surface of the body, they may rupture through the skin and drain on the surface. From this drainage it is possible often to recover tubercle bacilli. If the nodes are more remotely located from the surface they may rupture into the body cavities, such as the peritoneal cavity, or even discharge into the blood vessels, resulting in tuberculosis of the serous cavities or generalized tuberculosis.

The incidence of tuberculous infection in childhood is lower than we formerly thought it to be. It is not so long since we quoted statistics from European clinics and tried to apply them to our own country. Fairly extensive investigations have shown that rarely are more than 55 per cent of children infected before the age of 15 years, and in one rich farming community only about 11 per cent were found to be infected.

In examining more than 6,000 children in Minneapolis we have found that approximately 45 per cent of the boys and 47 per cent of the girls present evidence of tuberculous infection as revealed by the cutaneous tuberculin test. These figures make us wonder as to which group of children is safer from tuberculosis in its destructive form. It is the opinion of some workers that the child passing into adult life without manifestations of tuberculous infection is in greater danger than the child who has such manifestations and hence has some immunity to the disease. Be this as it may, we are not in a position to advocate that all children be exposed to tuberculosis, because we do not yet know enough about dosage, virulence and resistance to bring about artificial immunity in a safe way; and if children are exposed in the natural way the incidence of destructive tuberculosis is far too high to justify us in advocating it. In the light of our present knowledge, therefore, we must continue to prevent infection in every possible way, hoping that the time is not too far distant when immunization may be possible through vaccination as Calmette has already advocated for infants.

For the most part the groups that have been reported with tuberculous infection have not been carefully examined, physically and by roentgen ray, and consequently include those children who also had tuberculous disease. Because tuberculosis in childhood most often is a disease of the lymphatics, its detection is so different from the detection of pulmonary tuberculosis that it is frequently entirely overlooked.

In the diagnostic work at the Lymanhurst outpatient department we have found it advisable to group the children after the examination has been completed into the following groups: 1. Children symptom free, without abnormal physical or roentgen-ray changes, and with negative cutaneous tuberculin reactions. These are said to be entirely negative to tuberculosis and tuberculous infection. 2. Children symptom free without abnormal physical or roentgen-ray changes but with positive cutaneous tuberculin reactions. These are said to have tuberculous infection without evidence of tuberculous disease. 3. Children with very slight symptoms, with very slight or no deviation from the normal on physical and roentgen-ray examination, with positive or negative cutaneous tuberculin reactions. These are said to be tuberculous suspects. 4. Children with very definite symptoms which cannot be explained on other grounds, without abnormal physical and roentgen-ray evidence but with positive cutaneous tuberculin reaction. These are said to have masked juvenile tuberculosis. 5. Children with very definite symptoms, with definite enlargement of the lymph nodes and with positive tuberculin reaction. These are said to have tuberculosis of the lymph nodes of the involved region. 6. Children with very definite symptoms, with definite physical and roentgen-ray signs in various parts of the body. Such children are given diagnoses of tuberculosis of the lungs, bones, and the like.

Tuberculosis of the cervical lymph nodes is not always easy to diagnose with a high degree of certainty, particularly if the nodes are small. In general we can say that this disease usually does not occur before the end of the second year of life. If the nodes do not go on to suppuration, even if we have made a very extensive study of them and of the child's general condition, we cannot say with a high degree of certainty in most cases that tuberculosis exists until the biopsy has been made. This does not mean, of course, that treatment must be postponed until after the biopsy. In the diagnosis of tuberculosis in the region of the lung hilum we are even more handicapped, because biopsy is impossible in the majority of cases. The physician feels certain in his own mind that the condition is due to tuberculosis, yet he cannot always prove it.

In the diagnosis of tuberculosis of the lymph nodes, a history of exposure may be of considerable value; but the absence of such a history is not sufficient, by any means, to rule out tuberculosis. Often parents hesitate to mention the fact that a case of tuberculosis has existed in the family in the past, and it is only after most careful questioning that this evidence can be obtained. Richdorf has shown that in a good sized

group of cases in which the history has been taken by a number of different physicians not especially interested in exposure, very careful questioning later revealed that the history of exposure had been entirely missed. There are also patients who are unaware of ever having been exposed to tuberculosis. Of course, the history of constitutional symptoms may give one considerable aid, but here again there are many other conditions that give similar symptoms.

We have found physical signs of little value except when the involved lymph nodes are located near the surface of the body and may be palpated. Such signs as the d'Espine, Eustace Smith and interscapular dulness are of little avail. We took a large number of cases that had been examined physically with records made of the presence or absence of these physical signs; then we went to the roentgen-ray laboratory and found that the two rarely agreed. The cutaneous tuberculin test is helpful.

The blood sedimentation test has been applied to a good sized group of children at Lymanhurst, but it has not been found of any especial value in the type of cases with which we are dealing. The same may be said of the auto-urine test. Tubercumet and the Larson ring test have been used, but unless there is progressive clinical tuberculosis these tests have usually been negative. We do not believe, therefore, that they will be of much value in detecting tuberculosis of the lymph nodes unless it is of a progressive nature and is causing considerable destruction. Negative tests, we feel, are quite helpful. In cases of hilum tuberculosis the vital capacity test has been employed, but we have not found that such involvement reduces the capacity. The test should be done as a routine, however, since it is valuable in ruling out pulmonary involvement. It is especially valuable when serial examinations are made over long periods of time.

Stereoscopic roentgen-ray examination constitutes one of our most valuable aids. In fact, we feel that no physician should make a definite statement regarding the presence or absence of enlarged tracheobronchial nodes without having first carefully examined stereoscopic plates. At the Lymanhurst School we have made it a routine procedure and from it have secured a great deal of help. Therefore, we have come to believe that the most outstanding factors to be used in the diagnosis of tuberculosis of the lymph nodes, located remotely from the surface, are history of constitutional symptoms, positive cutaneous tuberculin reactions and evidence of disease seen in the stereoscopic plates which cannot be accounted for otherwise.

In differential diagnosis, chronic nontuberculous foci of infection have caused us most trouble. In Minnesota, infections of the paranasal sinuses are very common and have led to many errors in diagnosis. In fact, we have come to the point at which we strongly believe that careful examination, including roentgenograms of these sinuses, should be a part of every routine examination among children. Here we must not depend too much on the roentgen ray, for we have seen a number of patients with entirely negative roentgen-ray signs who proved to have unmistakable involvement with accumulations of pus.

The healing of tuberculosis of the lymph nodes, perhaps, takes place more readily than the healing of tuberculosis in any other part of the body. In fact, at an early time Morton said that it was the easiest form of phthisis to cure and that in his experience it was the form that occurred most frequently. Every physician doing tuberculosis work sees many cases of unmistakable tuberculosis of the cervical lymph nodes heal well.

What is true of cervical lymph nodes no doubt is true of nodes which become tuberculous in other parts of the body. In addition to clinical evidence of healing we have roentgen-ray evidence of bronchial nodes, for example, gradually becoming smaller and finally taking on deposits of calcium. The recent work of Dunham of Yale shows that such calcium deposits may be detected by roentgen-ray examination of the mesenteric lymph nodes. It has also been known for some time that the roentgen ray will reveal evidence of calcification in the cervical lymph nodes. In addition to this we have the best possible evidence obtainable through pathologic studies of the nodes taken from the living body or at postmortem.

The treatment of lymph node tuberculosis which is the prevailing type in childhood is usually carried out with a great deal of success. Our attempts have been along the line of conservation of energy, proper and sufficient food intake, close medical and nursing supervision, and heliotherapy. These in most cases have been found to suffice, but there is the occasional case in which it seems well to use such special measures, as the roentgen ray, radium and tuberculin. If the nodes are located near the surface of the body in such regions as the cervical, and pus forms, we always try to aspirate before rupture occurs on the surface. If only one or two nodes seem to be quite extensively involved and do not respond to other methods of treatment, it is often best to remove them by surgery; but we do not believe that the radical extensive surgical procedure is indicated as it was formerly believed to be. Such cases, after surgery has been applied, are continued on general treatment over a considerable period of time in an attempt to aid the other nodes to resist the disease.

While tuberculosis of the lymph nodes is the prevailing type in childhood, we must deal with other forms of disease. Pulmonary tuberculosis is not very common but perhaps it is more common than we believed it to be before the days of careful roentgen-ray studies. The pulmonary involvement may take on the characteristics of infantile tuberculosis during the period of childhood, or it may take on the characteristics of the adult type. If it is the infantile type, the course does not differ much from that progressive form seen in infants; but if it is the adult type, the course may differ considerably from the form that we ordinarily see in adults. It has been our experience to find physical signs much less marked in children suffering from the adult type than we find in adults. Râles are not reported so frequently unless the disease has become very extensive. Because of this fact I am convinced that in the past many cases of pulmonary tuberculosis in childhood have been entirely overlooked.

In a group of cases at the Lymanhurst School we found pulmonary involvement in children who we believe would not have been diagnosed if it had not been for the fact that they were taken to the clinic because of exposure, etc. When they were examined physically most of them showed little deviation from the normal, but on roentgen-ray examination very definite evidence of disease was seen.

The treatment in such cases we have tried to carry out as with adults by sending them to sanatoriums, or if this cannot be done, by giving treatment in the homes. In neither case can bed rest be given as strictly as in

adults because of the greater physical activity of children.

Somewhat to our surprise, we have found that healing of pulmonary tuberculosis takes place fairly readily in children if the disease is of the adult type. We have seen good sized areas of involvement heal quite completely and have also seen cavities become obliterated.

A subject that is being much discussed at present is the relationship between the prevailing types of tuberculosis in childhood and in adult life. One group holds that the adult type of disease is nearly always from outside sources while the other group holds that this type of disease is nearly always from the old childhood infection. In our present state of knowledge no one can prove conclusively that either one of these prevails in the human family. It has been shown that in experimental animals disease from outside sources is possible in animals that have been previously infected. Perhaps it is the previous infections in the human family that make the subsequent disease become chronic. I have a patient who developed lymph node tuberculosis at the age of 11. At 16 a radical resection of the cervical lymph nodes on one side was done. At 20, pulmonary tuberculosis developed in the left lung and the patient was compelled to spend six years in bringing this disease under control. The patient had a long sanatorium rest, then artificial pneumothorax, and finally extrapleural thoracoplasty. Although there is now some disease in the better lung, there apparently is sufficient resistance to keep this under control and the patient has a good working capacity.

I am now making observations on a group of children who have suffered from tuberculosis of the lymph nodes, some presenting evidence of Gohn's tubercle, to determine where and when the adult form of disease develops. Some of these children have been under observation for a number of years, and now, as they are passing into and some beyond the period of puberty, a few are developing chronic pulmonary tuberculosis.

From the standpoint of prevention of tuberculosis there is no more favorable time in the entire life span than during the period of childhood. With the infant it is a question of preventing exposure. If a family is intelligent, the prenatal worker can do a great deal by teaching the necessity of having all members carefully examined for tuberculosis, as well as all who will have intimate association with the infant. Such teaching will prevent a tremendous amount of exposure and will save the lives of many infants. This having been done, and the child born, the family can be taught the necessity for the proper foods, rest and other things.

In the period of childhood the problem of preventing exposure is much more difficult; in fact, it is almost impossible. We can do a great deal more than we have done in the past toward preventing exposure; but because of unsuspected cases of tuberculosis and carriers there are many dangers of children becoming exposed. On the other hand, during the period of childhood the body is better able to resist bacilli than at any other period of life, partly because of the structure of the lymph nodes. Since the body does resist the bacilli so well at this age, it is by far the best period of human life to treat tuberculosis with the aim of preventing the destructive type of disease which develops in later life. Perhaps this can best be done in schools for tuberculous children, where an attempt is made in the school system to find as many as possible of the children suffering from tuberculosis of the lymph nodes. All such patients can be placed in special schools, where they receive a great deal of attention so far as rest, food, etc., are concerned, where they are kept under very close supervision of physicians and nurses, and where they and those interested in them are taught the dangers of the adult type of disease. If such a program is carefully carried out I believe it will aid many children in building up a resistance to the mild lymph node disease which they already have, and this resistance together with the education they receive concerning disease will prevent them from later developing severe forms of adult tuberculosis.

CAUSE OF GROWTH OF SARCOIDS OR OIL TUMORS *

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It has now been well established that not only paraffin, liquid petrolatum [1] and coal tar [2] but also vegetable [3] and animal oils [4] become encapsulated when introduced into the tissues. It is also known that many of these oil tumors become active at a later time and cause pain, swelling and redness. Recently Zemansky [5] has seen a case in which quinine in olive oil had been introduced hypodermically into the fat of the buttocks during an attack of influenza, in Italy, in 1918. In 1926, one of the three tumors resulting from these injections enlarged rapidly in size and became red and painful. On examination in New York at that time, a fluctuating tumor was found and opened. It contained an oily material, but there was no definite pus. The wound refused to heal, and the lesions were excised. A typical but very cellular oil tumor was found which contained giant cells and closely packed fibroblasts in the walls of the oil cysts. The epithelium covering this tumor was hyperplastic, and in several places it was invading the deeper structures of the tumor.

It is well known that repeated applications of coal tar, paraffin and other lipoid solvents to the skin will eventually induce cancer not only in certain animals but also in man.

The sarcoids developing after the injection of oils are also much larger in certain individuals than in others, and they often undergo progressive growth for a long time and may cause eventual pain, redness and swelling, such as that noted in the patient of Dr. Zemansky.

What causes these individual differences in the extent of the growth of these tumors in certain men and their sudden springing into activity after years of latency had not been determined for man.

From the general analyses that we [3] have made of the cause of cancer and the action of coal tar, liquid petrolatum and animal and vegetable oils, it has become apparent that the chief and probably the most important factor in animals is undernourishment, either congenital or acquired in origin. Based on these earlier and gen-

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1. Mook, W. H., and Wander, W. G.: Camphor Oil Tumors, Arch. Dermat. & Syph. **1**: 304 (March) 1920.
2. Jorstad, L. H.: J. Cancer Research **9**: 232 (June) 1925. A general review of the literature is given by Woglom, W. H.: Arch. Path. & Lab. Med. **2**: 533 (Oct.), 709 (Nov.) 1926.
3. Burrows, M. T., and Johnston, C. G.: The Action of Oils in the Production of Tumors, Arch. Int. Med. **36**: 293 (Sept.) 1925.
4. Jorstad, L. H., and Johnston, C. G.: Proc. Soc. Exper. Biol. & Med. **24**: 86 (Oct.) 1926.
5. A. P. Zemansky has kindly sent us the report of this case and sections of the tumor in advance of his publication.

eral analysis, one of us [6] has found that the hyaline and typical precancerous lesions as well as the general cachexia produced by coal tar when injected into rats can be prevented by feeding animals a diet high in vitamin A, and these changes can be exaggerated by feeding the animals a diet poor in vitamin A. Jorstad and Johnston [4] have found that the same applies also to animals injected with liquid petrolatum and animal and vegetable oils.

REPORT OF CASE

That the same factors are evidently operative in man is shown by the following case,[7] which has come to our attention:

History.—A woman, aged 31, noticed that she had albumin in the urine when she applied for life insurance at the age of 19 (1915). Aside from the albumin in the urine she did not have very marked symptoms except for a short time after she had an impacted third molar tooth removed in New York in January, 1916, and after the birth of her child, in 1920. She was critically ill for a few days after the removal of her tooth, and she was very ill again for nine days after the birth of her child. They did not expect her to recover from this last illness. The child had to be removed by cesarean section. After this time she became quite well, however, and remained so for four years.

Her family history is interesting in that her grandmother died of nephritis and she has an aunt who is suffering from chronic interstitial nephritis, not different from that of her own.

Her early history is unimportant aside from the fact that she has had what was supposed to be measles at three different times.

Four years after her child was born, she suffered abscesses in several of her teeth. The nephritis became aggravated again at this time, to be relieved temporarily with the removal of the teeth. She has had attacks off and on ever since. One of these attacks came on during the latter part of March, 1926. She came to the laboratory to see us for the first time shortly after the beginning of this attack. Correlating our recent work with that of Hartman, Bolliger and Doub,[8] it has become evident that the general nature of the lesion in the kidney in chronic interstitial nephritis may have become established.[9] These authors have produced a lesion in dogs by treating their kidneys with large doses of roentgen rays. This lesion resembles chronic interstitial nephritis in man, both clinically and pathologically.

It is well known that the roentgen ray produces precancerous lesions in animals and man, and, as we have noted,[10] these lesions are not different from the lesions produced by coal tar, liquid petrolatum and animal and vegetable oils. These precancerous lesions, as noted by us in the papers referred to, are the result of the removal of the ergusia or fat soluble vitamins from the tissues.

In our further study [11] of the action of roentgen rays, we have also shown that these precancerous as well as other toxic effects of roentgen rays can be prevented or hindered by feeding the animals well rounded diets rich in vitamin A. For this reason we felt quite certain that the patient might protect her kidneys from a more rapid disintegration by taking a diet containing at least an ample suply of vitamin A. Since the kidneys, in this condition, have an already lowered function, it was necessary not to overload with vitamin A, but to take also a certain quantity of vitamin B in order that they might be kept sufficiently active to take care of body waste. Shortly after we saw the patient, she left for her summer vacation. On her own initiative she changed to the Karell salt-poor diet.[12] At the time she began this diet her ankles were swollen considerably and she had marked eye and urinary symptoms, as well as a general loss of vigor. She was able to be up and around, however.

The patient is a very intelligent woman, having not only a university training but also considerable experience as a member of the staff of a biologic research laboratory. In order that the diet might be prepared in the proper manner, she undertook its preparation herself and kept careful data on herself and the amount of the various substances that she ate. The diet which she took for something over three weeks was as follows:

For the first three days she took only three glasses of milk a day of 6½ ounces each, without other fluids. On the fourth day she took one soft boiled egg and two pieces of dry toast with the milk. On the fifth day she increased the diet to two soft boiled eggs and four pieces of dry toast. The amount of milk taken was the same. Beginning with the sixth day and continuing for the next three weeks the diet was changed considerably. The milk caused her to feel a heaviness after taking it. She discontinued its use except for a glass or two a week. She also discontinued the use of bread entirely. Her diet during this time, aside from water and one egg every other day, consisted of chopped lean meat (beef and veal), fresh green peas and fresh string beans. Each of these articles she boiled twice for an hour and poured off the water after each boiling. She used a considerable amount of water in each case. At intervals she could not eat this overcooked food and would add a little saltless butter to the green vegetables. She also took a small dish of oatmeal once a week.

As is to be noted from the diets mentioned, the caloric values of the diet of the first five days was low. She increased the calories in the diet of the following three weeks by using a considerable quantity of the boiled meat. It is not likely that she ever received more than 1,500 calories in any day of this period, however.

Just after her recovery from the dental operation in New York eleven years ago, she noticed a small tumor, about the size of a pea, attached to the lower end of the deltoid sheath on the lateral surface of her right arm. This tumor was not attached to the skin.

The presence of this tumor worried her. Consequently she watched it carefully in the years that followed. She never noticed any other tumors, and this one never changed in size until she began to take the diet consisting of boiled meat and vegetables. By the end of the third week on this diet the tumor was the size of a walnut, very painful to touch, red, and her whole arm was stiff and useless. She called her physician and told him that we had noted that cancer results from anything which removes the vitamin A from the tissues and showed him that the diet she was receiving must be not only largely free from salts, but that it must be also practically free from the fat and water soluble vitamins. He placed her at once on a full diet rich in vitamin-containing substances. The diet which she chose to take at that time and has continued to take up to the present has consisted largely of milk, cream, eggs, whole wheat cereals, butter and bread, oatmeal and meat. She has had trouble with digesting starches. She eats little starch and no potatoes, therefore. On this diet the stiffness and soreness in her arm disappeared and after eleven days the tumor had returned completely to its former small size.

Concerning the enlargement of the tumor, Dr. R. B. Rowles, Matamoras, Ohio, writes us as follows: "The tumor on her right arm was about one inch in diameter, slightly inflamed and very painful on pressure. Because of her chronic nephritis, she had been on a salt-free diet. I suggested a more varied

6. Jorstad, L. H.: J. Exper. Med. **42**: 221 (Aug.) 1925.
7. We are indebted for this case to Mrs. Wanda Kirkbride Farr, wife of C. H. Farr, associate professor of botany, Washington University.
8. Hartman, F. W.; Bolliger, Adolph; and Doub, H. P.: Functional Studies Throughout the Course of Roentgen-Ray Nephritis in Dogs, J. A. M. A. **88**: 139 (Jan. 15) 1927.
9. Burrows, M. T.: Functional Studies Throughout the Course of Roentgen-Ray Nephritis in Dogs, J. A. M. A. **88**: 857 (March 12) 1927.
10. Burrows, M. T.; Jorstad, L. H., and Ernst, E. C.: Cancer, Vitamin Imbalance and Roentgen-Ray Activity, J. A. M. A. **87**: 86 (July 10) 1926.
11. Burrows, M. T.; Jorstad, L. H., and Ernst, E. C.: Further Studies of the Effect of Graded Doses of X-Rays on Animals Fed on Various Dietaries, with a Note on the Effect of Dietary in the Treatment of Patients with X-Rays, Radiology, to be published.

12. Pattee, Alida F.: Practical Dietetics, Diet in Health and Disease, Mount Vernon, N. Y., 1925, p. 515.

diet." The patient "immediately changed her diet and in about one week the tumor had almost disappeared. There was no pain on pressure and no inflammatory condition."

The patient tells us that the disappearance of the tumor was most rapid after she commenced to take the vitamin-rich diet. After three days the stiffness in the arm was relieved and the tumor had decreased to just half its previous size. After eleven days it had returned to its former small size, that of a pea, and felt on palpation quite as it had before excepting for the fact that she could feel three very small smooth round tumors close beside it. The latter tumors seemed no longer than millet seeds.

Her general symptoms, which had improved so decidedly on the salt-poor diet returned to a slight extent. She has some swelling of the ankles and slight blurring of vision in the afternoons. For the most part she has been quite well, however, and feels strong and goes about her work as usual.

Dec. 3, 1926, she noticed after a hard day's work in her home some slight stiffness of her right arm. She examined the tumors but found them unchanged in size and they were not painful to pressure. At any rate she decided to have them removed. She came to our laboratory and gave us this history at that time.

Physical Examination.—One large and three small tumors were attached to the deep fascia near the lower end of the deltoid muscles along the lateral part of the upper right arm. The larger tumor appeared to be about 0.5 cm. in diameter, while the small tumors were no more than 2 mm. in diameter. They were not painful, although the muscles of the whole upper arm were slightly painful. The tumors lay outside the deep fascia, but were attached to it. The skin was freely movable over them. They were all firm, spherical cysts. They were quite characteristic of oil tumors, which often follow after the injection of vegetable or mineral oils as vehicles for the subcutaneous administration of drugs.

Treatment.—The tumors were removed under local anesthesia (procaine hydrochloride, 0.5 per cent, and epinephrine hydrochloride). They lay in the loose tissue just outside the deep fascia. They could be stripped easily from the deep fascia without its being excised. The wound was closed with catgut and silk. It healed promptly and then suppurated in the deeper parts. The patient did not recover completely until Jan. 20, 1927.

Pathology.—There were four tumors, three small ones, each measuring about 2 mm. in diameter, and a larger one, measuring about 5 mm. in diameter. They were firm and spherical, and contained considerable amount of oil. This oil would not stain with sudan III. We are not certain of its exact nature.

Histology.—The tumors presented the characteristic picture of the oil tumors removed and described for man as well as those produced experimentally in animals through injecting either liquid petrolatum or a vegetable or animal oil. They differed from the ordinary tumors of this class, which had been present in the patient for a long time, in that they were very cellular. They were composed of dense masses of fibroblasts, which had suffered necrotic changes in many parts. In many individuals such tumors become hyalinized after a few weeks. These tumors, quite the reverse, were as cellular as they are a few days after the oil is introduced. The oil was deposited in numerous small spherical and ovoid spaces throughout the whole of each tumor.

Giant cells were also encountered in a few areas. These were similar to those described by Mook and Wander[4] and not noted by us when pure oils were introduced into animals. They have been found by us only in cases in which the oil injected contained camphor, quinine and other drugs.[3] There was also a moderate infiltration of lymphocytes. These are found in the early periods of the development of a few of the experimental oil tumors in which pure oils are used.

The general structure of these tumors is that of a granuloma. The tissue composing them differs from true granulation tissue only in that it contains very few blood vessels. Illustrations of such tumors are given in the articles of Burrows and Johnston,[3] and of Mook and Wander. They are similar to the coal tar tumors figured by Jorstad.[13]

13. Jorstad (footnotes 2 and 6).

COMMENT

The intelligence and the careful training of this patient make the data that she has given us as valuable as any we could have possibly obtained from experiments on animals. It controls exactly the data we have previously obtained from animal experimentation.

It has been such experiments and case reports as this one that have led us to believe that the increase in cancer is not due alone to the presence of agents able to induce cancer, such as sunlight, roentgen rays, radium, coal tar and other oils, animal parasites and chronic inflammatory processes, but that the nutrition of the patient is also of the greatest importance. Our recent animal experiments, as noted, have shown very clearly that the cancer producing properties of coal tar and roentgen rays can be prevented to a decided degree by feeding the animals well rounded diets rich in vitamin A. The case reported here only indicates that the same applies to man.

CONCLUSIONS

Oil tumors that have remained small and quiescent for years in a patient have become active almost at once when she was placed on a salt poor and vitamin poor diet, only to return to their former size and condition of inactivity on a well rounded diet rich in vitamins.

VITAMIN E

THE INEFFECTIVENESS OF CURATIVE DOSAGE WHEN MIXED WITH DIETS CONTAINING HIGH PROPORTIONS OF CERTAIN FATS *

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The sterility produced by simplified diets low in vitamin E is often delayed in its appearance because of the fact that traces of vitamin E exist in most of these dietaries, combined with the fact that young animals also begin life with proved traces of vitamin E derived from the mother. We have called this phenomenon "initial fertility." If the diet contains a fat known to possess vitamin E (e. g., butter), initial fertility may exist in most members of a group and be prolonged; with fats low or lacking in vitamin E (e. g., lard) initial fertility also often occurs but never to the same extent.

On the diet that we have called our basic ration (B. R.), consisting of casein, 18; corn-starch, 54; lard, 15; butter, 9; salts, 4, and yeast, from 0.5 to 0.7 Gm. daily, initial fertility may be so high as to enable 40 per cent of the animals bred at ninety days to have their first litters. Again, it may be absent. It is normally shown by about 20 per cent of animals. Diet 201 (casein, 18; corn-starch, 73; butter, 5; salts, 4; yeast, from 0.5 to 0.7 Gm. daily) results in still greater fertility. In a group of forty-five animals, thirty-seven gave birth to their first litters and nine to a fourth litter on this diet.

The occurrence of initial fertility with diets containing fats lacking in vitamin E may be illustrated by diet 228 (casein, 27; corn-starch, 59.3; lard, 7.7; salts, 4; cod liver oil, 2; yeast, from 0.5 to 0.7 Gm. daily). Although animals are often sterile from the beginning on this diet and are predominantly sterile

* From the University of California Medical School.

in their second gestation, first gestation fertility may be marked. In a group of 168 animals, for instance, the initial fertility was 72 per cent.

When lard is increased from 7 per cent to 22 per cent, other constituents being the same though changed in proportions (such as in our diet 232, casein, 32; corn-starch, 40; lard, 22; cod liver oil, 2; salts, 4; yeast, from 0.5 to 0.7 Gm. daily), initial fertility practically disappears. In 200 recent consecutive cases we have encountered four instances of the birth of first

TABLE 1.—*Results with Diets 201 and 202*

Diet	Number of First Gestations	Number of First Gestations in Which Living Young Were Born	First Gestation Fertility, Per Cent
Diet 201 (casein, 18; corn-starch, 73; butter, 5; salts, 4; yeast, from 0.5 to 0.7 Gm. daily)	54	45	83
Diet 202 (casein, 18; corn-starch, 63; lard, 10; butter, 5; salts, 4; yeast, from 0.5 to 0.7 Gm. daily)	33	1	8

litters. Confronted with facts of this nature, V. E. Nelson has attributed sterility with such diets to the disadvantageous effects of high fat rather than to lack in a special vitamin (E). Such an explanation is untenable. If fats containing vitamin E (e. g., butter) are fed in the same high proportion (22 per cent), perfect fertility remains throughout life. Furthermore, the early and complete sterility with diet 232 is immediately cured in any gestation by the administration apart from the food of minute vitamin E concentrates from wheat germ oil. Further evidence that the vitamin-low fat (lard) is not itself deleterious is shown by the completely normal growth which diet 232 confers—a fact we have ourselves established by several hundred growth curves, with many litter-mate sisters on the best natural foods.

The remarkable difference in early fertility displayed by diets 201 and 202 (table 1) led us to investigate why the addition of 10 or 15 per cent lard should cause earlier failure in reproduction.

TABLE 2.—*Results with Diets 228 and 232*

Diet	Number of First Gestations	Number of First Gestations in Which Living Young Were Born	First Gestation Fertility, Per Cent
Diet 228 (casein, 27; corn-starch, 59.3; salts, 4; lard, 7.7; cod liver oil, 2; yeast, from 0.5 to 0.7 Gm. daily)	168	121	72
Diet 232 (casein, 32; corn-starch, 40; salts, 4; lard, 22; cod liver oil, 2; yeast, from 0.5 to 0.7 Gm. daily)	99	6	6

We first suspected that the increased caloric value of the diet caused a corresponding decrease in the consumption of the protein or salts and that this along with the lack of vitamin E produced sterility. A similar but less pronounced difference was found between diets 228 and 232, in which the nutritive ratio is identical (table 2). Evidently, then, protein intake, which is the same in diets 228 and 232, is not the factor.

As regards mineral metabolism, changes in the total salt content (i. e., in the proportion present of the salt mixture 185 [1]) were then made and it was found that a variation of the salt intake over a very wide range did not affect first litter fertility. In table 3 we give the actual range of salt content with which we experimented.

Beginning with diet 260, it will be noted that much larger amounts of salt were present than in the typical sterility producing diet 232, yet in no instances in the animals fed the higher salt diets was fertility—even initial fertility—induced.

It is apparent, then, that the intake of minerals, contrary to some recent suppositions,[2] is also not the determinative factor as to whether fertility or sterility will result with the "pure" or simplified rations.

We then wondered whether the added lard could in some way affect the animal constitutionally so that a larger quantity of vitamin E would be required for curing animals on lard-high as compared with lard-low diets. We have not been able to detect any difference in the minimal curative dose of vitamin E when administered apart from the diet to sterile animals reared and held on diet 232 as compared with diet 228, although the fortuitous variation in sensitiveness to vitamin E among animals makes exact testing of such a point well nigh impossible. It then seemed possible that in the high-fat diets the added lard was acting as a solvent for all traces of vitamin E in the other constituents (butter, casein, corn-starch) and that a definite and critical proportion of the vitamin might be swept through the intestine with the unabsorbed fatty substances.

TABLE 3.—*Range of Salt Content*

Designation of Diet	Grams of Salts (185) per 100 Calories	Number of Animals Studied for Growth and Fertility
310	0.0	2
311	0.45	3
258	0.7	30
283	0.7	15
259	0.8	30
232	0.8	600
228	0.9	200
257	0.93	30
260	1.23	30
284	1.23	15
312	1.3	3
313	1.8	3
314	2.8	3
315	3.9	3

A direct test of this theory was made by mixing known quantities of a natural food substance (wheat germ)—the highest known in vitamin E—with melted lard and by then mixing this with the other ingredients to make high or low fat diets as we desired. The quantity of vitamin E in wheat germ has been definitely established by us. We know that if a sterile female is fed 250 mg. of wheat germ separately daily mixed with an equal quantity of yeast, beginning on the day of copulation, the birth of living young always results. But this is close to the minimal dose and cannot be lowered without the failure of at least a part of the animals chosen for a test. The food consumption of

1. Salt mixture 185 consists of:

Sodium chloride	0.173
Magnesium sulphate (anhydrous)	0.266
Sodium biphosphate	0.347
Dipotassium hydrogen phosphate	0.954
Calcium acid phosphate	0.540
Ferric citrate	0.118
Calcium lactate	1.300

2. Simmonds, Nina; Becker, J. Ernestine, and McCollum, E. V.: The Relation of Vitamin E to Iron Assimilation, J. A. M. A. **88**: 1047 (April 2) 1927.

the animals was next carefully determined and enough germ was added to the diets to assure a daily consumption of at least 250 mg. throughout gestation. In these experiments when lard was absent (experiments 1 and 2) or present only as 7.7 per cent (experiment 3), wheat germ, when mixed in the diet in such proportion as to give an intake of 250 mg. daily, always still led to the birth of living young.

EXPERIMENT 1.—Twenty grams of wheat germ was mixed with 1,000 Gm. of fat-free diet 316 (casein, 24; cornstarch, 72; salts, 3.6). At the inception of a new gestation, this food mixture together with two drops of cod liver oil and from 0.5 to 0.7 Gm. of yeast daily was given to four rats that had been reared and held on diet 232 and in each case proved sterile by a resorption gestation. Litters of eight, six, nine and eleven young, respectively, were produced.

EXPERIMENT 2.—Twenty grams of wheat germ was mixed with 1,000 Gm. of fat-free diet 316 to which 2 per cent cod liver oil (20 Gm.) had already been added. At the inception of a new gestation, this food mixture with from 0.5 to 0.7 Gm. of yeast daily was given to four rats that had been reared and held on diet 232 and in each case proved sterile by a resorption gestation. Litters of nine, one, nine and seven young, respectively, were produced.

EXPERIMENT 3.—Twenty-two grams of wheat germ was mixed with 77 Gm. of lard and then mixed with other ingredients to make 1,000 Gm. of diet 228 (casein, 27; cornstarch, 59.3; lard, 7.7; cod liver oil, 2; salts, 4; yeast, from 0.5 to 0.7 Gm. daily). At the inception of a new gestation, this food mixture solely was given to three rats that had been reared and held on diet 232 and in each case proved sterile by a resorption gestation. Litters of two, two and eight young, respectively, were produced.

On the other hand, when lard constitutes 22 per cent of the diet, the same amount of wheat germ mixed in the diet invariably fails to evoke cures (experiments 4 and 5).

EXPERIMENTS 4 and 5.—Twenty grams (and again 26 Gm.) of wheat germ were mixed with 220 Gm. of lard and then mixed to make 1,000 Gm. of diet 232 (casein, 32; cornstarch, 40; salts, 4; lard, 22; cod liver oil, 2; yeast, from 0.5 to 0.7 Gm. daily). At the inception of a new gestation, this food mixture solely was given to eight rats that had been reared and held on diet 232 and in each case proved sterile by a resorption gestation. A litter of one (dead) and seven resorptions resulted.

Without changing the type of fat, it is found that if the wheat germ be doubled (500 mg.) litters are produced. This is, of course, also the case when treble the dose is given (experiments 6 and 7).

EXPERIMENT 6.—Fifty-two grams of wheat germ was mixed with 270 Gm. of lard, and then mixed with other ingredients to make 1,052 Gm. of diet 232. At the inception of a new gestation, this food mixture solely was given to four rats that had been reared and held on diet 232 and in each case proved sterile by a resorption gestation. Litters of eight, five, six and four young, respectively, were produced.

EXPERIMENT 7.—Seventy-eight grams of wheat germ was mixed with 330 Gm. of lard and then mixed with other ingredients to make 1,578 Gm. of diet 232. At the inception of a new gestation, this food mixture solely was given to four rats that had been reared and held on diet 232 and in each case proved sterile by a resorption gestation. Litters of eight, six, eleven and ten young, respectively, were produced.

There is evidently a rather definite ratio between the effect of high lard, however it is exercised, and the amount of vitamin E fed in the diet. When the amount of vitamin E is high enough, probably the highest possible amounts of lard can be prevented from rendering vitamin E ineffective.

It has already been mentioned in the introductory parts of this paper that when fats such as butter, which contains vitamin E, are included in the diet, "initial fertility" is greatly increased. We were consequently interested in repeating with butter the cure experiments in which high lard when intimately mixed with adequate doses of vitamin E destroyed the effectiveness of the vitamin. Experiment 8 shows that butter when fed in these high amounts does not, unlike lard, interfere with the effect of the vitamin.

EXPERIMENT 8.—Twenty grams of wheat germ was mixed with 220 Gm. of filtered butter and made into 1,000 Gm. of diet 232. At the inception of a new gestation, this food mixture solely was given to three rats that had been reared and held on diet 232 and in each case proved sterile by a resorption gestation. Litters of eight, seven and four young, respectively, were produced.

Although we have demonstrated in other experiments that butter, while possessing vitamin E, is low in it, we suspect that hydrogenated cottonseed oil (Crisco) is still lower in vitamin E. The simultaneous feeding of Crisco and wheat germ gave the same results as did lard; i. e., the minimal curative dose of wheat germ loses effectiveness when Crisco, constituting 22 per cent of the diet, is directly mixed with it (experiment 9).

EXPERIMENT 9.—Twenty-six grams of wheat germ was mixed with 220 Gm. of Crisco and then with other ingredients to make 1,026 Gm. of diet 232. At the inception of a new gestation, this food mixture solely was given to four rats that had been reared and held on diet 232 and in each case proved sterile by a resorption gestation. A resorption gestation resulted in each instance.

In searching for other fats low or lacking in vitamin E we were confronted by the almost universal presence of this vitamin in unpurified animal and vegetable fats. Consequently, pure substances were sought. To our surprise, stearic acid (U. S. P.) when fed as 22 per cent of the diet simultaneously with wheat germ did not completely oppose the action of the minimal effective quantity of wheat germ; two resorptions and two births of infirm but living litters resulted (experiment 10).

EXPERIMENT 10.—Twenty-six grams of wheat germ was mixed with 220 Gm. of melted stearic acid U. S. P. and then mixed with other ingredients to make 1,000 Gm. of diet 232. At the inception of a new gestation, this food mixture solely was given to four rats that had been reared and held on diet 232 and in each case proved sterile by a resorption gestation. A litter of four sick young, two resorptions, and a litter of seven poor young, respectively, resulted.

On the other hand, technical oleic acid, when mixed in the diet, even more effectively than lard, robs wheat germ of its curative action at the minimal effective level (experiment 11).

EXPERIMENT 11.—Twenty-six grams of wheat germ was mixed with 220 Gm. of oleic acid (technical) and then mixed with other ingredients to make 1,000 Gm. of diet 232. At the inception of a new gestation, this food mixture solely was given to four rats that had been reared and held on diet 232 and in each case proved sterile by a resorption gestation. A resorption gestation resulted in each instance.

Oleic acid when present only as 7.7 per cent (the proportion of lard in diet 228) prevented wheat germ cures (experiment 12), though lard in this proportion cannot prevent the curative action.

EXPERIMENT 12.—Twenty-two grams of wheat germ was mixed with 77 Gm. of oleic acid (technical) and then mixed with other ingredients to make 1,000 Gm. of diet 228. At the inception of a new gestation, this food mixture solely was

given to three rats that had been reared and held on diet 232 and in each case proved sterile by a resorption gestation. A resorption gestation resulted in each instance.

SUMMARY

It is therefore certain that wheat germ—the highest and least varying source of vitamin E known to us—whose curative action at definite quantitative levels has been determined by hundreds of experiments when the substance is fed separately from the diet, can be robbed of its effectiveness when it is fed mixed with high amounts of certain fats. It seems likewise clear that these new facts explain in the simplest possible manner the clearly proved complicity of such fats in the accelerated appearance of sterility in dietary regimens in which vitamin E is low or lacking. We are now concerned with an attempted further analysis of the exact mechanism of the remarkable effect of the fats in question.

BRACHIAL PLEXUS BLOCK

ITS CLINICAL APPLICATION *

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In this country, blocking the brachial plexus has not become an established procedure, nor has this method of anesthesia received wide attention. The *Cumulative Index* fails to list a single article of American origin describing the use of brachial plexus anesthesia for operations on the upper extremity.

HISTORICAL REVIEW

Blocking the brachial plexus was first described by Kulenkampff in 1911. This author reported twenty-five cases with complete anesthesia in fifteen, and a partial anesthesia, which was sufficient for the desired operation, in five others, but failure with the remaining five. In the same year, Hirschel published a report of three additional operations performed by means of brachial injections.

It has been pointed out that every new surgical method, before becoming firmly established, must pass through three stages: a period of optimism, a period of pessimism, and a period of adjustment. The history of brachial plexus anesthesia has not been an exception to this rule. For, following these initial reports, there appeared in the literature accounts of many complications and untoward effects following its use. Among these undesirable aspects—some of them merely theoretical, others actually observed—were the deposition of the solution within blood vessels; injury to the pleura or lung; paralysis of the phrenic nerve; toxic manifestations, and injury to the cords of the plexus. In addition to these complications, failure to secure surgical anesthesia was reported in a considerable percentage of cases.

The period between 1911 and 1915 was an experimental era for brachial plexus block. Four routes of approach to the nerve were attempted. The plexus was injected from the axilla, from below the clavicle and from above the clavicle, and the individual nerves were attacked from the dorsum of the neck. The needles, the syringes, the type of drug, and the percentage of concentration, were also varied. During this period, injury to every anatomic structure in proximity to the plexus was put on record, and this inevitably cast disfavor on the method.

However, foreign literature soon gave evidences of the passing of this period of pessimism, and the onset of a period of adjustment. The supraclavicular route of Kulenkampff became the accepted path of approach, technic became better standardized, and larger series of cases were reported. Table 1 tabulates 1,000 such brachial plexus injections from foreign sources, giving the name of the author, his number of cases, the percentage of complete and of partial anesthesias, and a list of the complications observed. This review shows that the most serious complication from these 1,000 injections was a partial paralysis of the forearm, which disappeared without treatment after an interval of six months. No death occurred. The untoward results were transient. Complications occurred with less than 3 per cent of patients. Complete surgical anesthesia was obtained from more than 80 per cent of injections.

TABLE 1.—*Report of One Thousand Cases from Literature*

Author	Date	Cases	Anesthesia Obtained: Complete	Partial	Failures	Complications
Kulenkampff	1911	25	60% (15)	20% (5)	20% (5)	None
Hirschel	1911	3	100% (3)	None	None	None
Kulenkampff	1913	200	100% satisfactory		None	Late paresthesias
Babitzki	1913	25	100% satisfactory		None	None reported
Neil and Crook	1913	40	80% (32)	17.5% (7)	2.5% (1)	None
Hirschler	1913	3	Three cases of nerve injury			Longest 4 mos.; paresis of index finger
Hartel and Keppler	1914	200	95% (190) satisfactory		5% (10)	Paresis of diaphragm; cord injury; chest pain; all temporary
Scheppelman	1915	300	97% (293) satisfactory		3% (7)	One case of pneumothorax; no late effect
Boit	1915	110	98% (108) satisfactory		2% (2)	Marked dyspnea on few occasions
Flesch-Thelesius	1919	21	94% (29) satisfactory		6% (2)	Paresis of arm, 1 case
Wright	1920	56	71% (40)	22% (12)	7% (4)	Paresis of arm, 2 cases; both were transient
Total		903				
Authors' cases: Clinic series		35	60% (21)	35% (12)	5% (2)	Tremor, palpitation, dyspnea, (all transient)
Hospital series		70	87% (61)	11.5% (8)	1.5% (1)	
			Satisfactory 97% 102 of 105 cases			

Excluding the original report of Kulenkampff, absolute failures did not exceed 7 per cent of the cases in any report, while an average of all reports was 2.4 per cent failure.

ADVANTAGES OF THE METHOD

The review of the literature reveals, in addition, the advantages of this form of anesthesia. Certain objectives are attained through brachial plexus block which cannot be achieved by other methods:

1. The anesthesia is limited to that restricted portion of the body on which it is proposed to operate, leaving intact the vital centers.

2. Such a block results in a physiologic section of the nerves supplying the upper extremity. Painful impulses from the periphery are no longer transmitted to the brain, and shock is minimized or prevented. In traumatic cases, the importance of this consideration constitutes a definite indication for regional anesthesia.

3. To preserve the consciousness of the patient is, at times, another objective of high clinical value. This is particularly true when the operation is for the repair of lacerated tendons of the wrist and when the coopera-

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tive movement of each individual muscle renders identification of the structural units certain. Again, the conscious patient may have immediate relief while awaiting the preparation of operative facilities. This relief of pain can be carried on for hours, since repeated injections have proved to be inocuous. Also, after reduction of fractures, the patient may immediately go to the roentgen-ray room for a follow-up plate, and a secondary reduction is both possible and painless if further correction is necessary.

4. The trained surgeon can work single handed, if necessity requires, or, if a regional expert makes the injection, he is free to assist the surgeon in the operative procedure.

The advantages of brachial plexus block over local injections at or below the elbow are that the site of injection is away from lymphatic channels, diminishing the danger of passing the needle through infected tissue; the tissues are not distorted or devitalized through the deposit of the solution at the operative site; the muscles of the forearm, which have their attachment and innervation from above the elbow, are thus relaxed, while the brachial block, with its single, shallow injection, is more simple than any other regional method on the upper extremity.

TABLE 2.—*Operations Performed Under Brachial Plexus Block*

	Types of Cases		
1	Infections of the hand		22
2	Infections of the forearm		9
3	Reduction of Colles' fracture		12
4	Reduction of other fractures of the arm and forearm		4
5	Repair of flexor tendons at the wrist		12
6	Repair of extensor tendons at the wrist		2
7	Removal of tumors of the upper extremity		14
	a. Ganglions	6	
	b. Lipomas	5	
	c. Osteomas	2	
	d. Epithelioma	1	
8	Operations for chronic osteomyelitis		9
	a. Hand	8	
	b. Radius	1	
9	Repair of extensive traumas of the upper extremity		8
10	Reduction of dislocations of the fingers		4
11	Plastic operations on the hand		4
12	Amputation of the forearm		1
13	Removal of foreign bodies from the hand		2
14	Median nerve suture		2
	Total		105

REPORT OF CASES

Our purpose in this article is to report results from the use of brachial plexus anesthesia in routine hospital and clinic practice. This work was performed in the third surgical division of Bellevue Hospital (service of Dr. George David Stewart), at the Polyclinic Hospital (service of Dr. Herbert Chase), and at the Central Neurological Hospital. Several injections of this series were made by members of the house staffs, in many instances doing their first work with regional anesthesia, and in all cases making their first brachial plexus injections.

This report is a study of the results obtained from the administration of this form of anesthesia to 105 patients. Thirty-five cases were from the clinics, and the remaining seventy were from the hospital services. Table 2 specifies the operations performed.

TECHNIC AND ROUTINE

Details of technic will be omitted from this clinical study. These may be found in any textbook dealing with regional anesthesia. The basic routines employed were as follows: Injections were made by the supraclavicular route of Kulenkampff. With few exceptions, a single puncture was made and the solution deposited immediately beneath the deep cervical fascia. No attempts were made to obtain paresthesias, contact with the nerve trunks being rigidly avoided. The solution rather than the needle found the cords of the plexus. Thirty cubic centimeters of the 2 per cent solution was employed. In some instances this consisted of stock solution of procaine hydrochloride; in others it was freshly prepared from powdered procaine. Patients from the outpatient departments did not receive preliminary medication, and immediately on completion of the operative procedure they were allowed to leave the clinic. Hospital patients were given hypodermic injections of one-eighth grain (8 mg.) of morphine one-half hour before operation, and in some cases 1/150 grain (0.4 mg.) of scopolamine was added. These patients were all kept in the recumbent posture for two hours after the injection of the plexus. In certain instances, an additional one-eighth grain (8 mg.) of morphine was given shortly before the brachial block was induced.

RESULTS

The results are summarized as a part of table 1. In the clinic series, surgical anesthesia was obtained in twenty-one of the thirty-five patients (60 per cent). The anesthesia was sufficient for the completion of the operation, but not entirely satisfactory, in twelve additional cases (35 per cent). In two cases it was a complete failure (5 per cent).

In the hospital series, surgical anesthesia was obtained with sixty-one of the seventy cases (87 per cent). The anesthesia was adequate, but not entirely satisfactory in eight additional cases (11.5 per cent). In one case, inhalation narcosis was resorted to, and the injection was considered a complete failure (1.5 per cent).

The operations were completed without additional means of anesthesia in 102 of the 105 cases.

DIFFICULTIES ENCOUNTERED

The chief difficulty encountered was the failure to obtain uniformly complete anesthesia. In the strict sense of the term, complete anesthesia is never obtained by any nerve blocking method. Touch sensations always remain; thus the patient is conscious of manipulations at the operative field, and these alone are sufficient, with many apprehensive patients, to invite failure. Even complete surgical anesthesia leaves the patient with a residuum of sensations from the part. Furthermore, in every large series of cases there will be some in which this complete surgical anesthesia is not obtained. The thickness of the firm, closely packed cords, and the loose areolar tissue in which they are embedded, make it difficult for the anesthetic solution to penetrate the nerves perfectly. So great is the number, and so wide the distribution of the branches of this plexus, that the injection of the individual units is not attempted, and brachial plexus block is in reality simply a mass infiltration of the region. The theoretical difficulties, therefore, in attaining perfect results are very great, and most authors have reported a considerable percentage of cases with only partial anesthesia: cases in which the operation could be performed, but in which pain sensations were not entirely eliminated. These authors also agree that there will be occasionally a complete failure. In a certain instance this might be due to a nerve anomaly, to an error in the preparation of the solution, to an unusual individual resistance to the drug, or to the accidental injection of the fluid within a vessel, resulting in a loss of concentration at

the desired site. Be the causes what they may, an occasional failure and a variable percentage of incomplete results seem inevitable, while touch and pressure sensations most certainly remain intact.

For these reasons, the psychic preparation of the patient, and the use of adequate preliminary doses of narcotics, are of unusual importance when employing brachial plexus anesthesia. This fact is illustrated by the discrepancy between the end-results with hospital and with clinic patients. We do not now attempt this method of anesthesia unless it is possible to give the patient an adequate dose of some synergistic drug, such as morphine or scopolamine.

Toxic symptoms consisting of weakness in the extremities and mild mental incoordination were observed in one clinic patient. Flushing, tremor, and cardiac palpitation were observed more frequently, occurring in 30 per cent of patients injected in the sitting posture, and in five patients of the hospital series (7 per cent). In all instances these symptoms were transient, not exceeding the period of anesthesia, and in most instances they were momentary. No symptoms of a sufficiently serious nature to contraindicate the use of the method were observed. Nevertheless, we do not now attempt brachial plexus anesthesia unless arrangements are adequate for observing the patient in a recumbent posture until all danger from toxic manifestations has passed.

COMPARISON WITH ETHER NARCOSIS

All methods of anesthesia for the accomplishment of these major operations on the upper extremity have their disagreeable aspects. The by-effects of brachial plexus block must be compared with those of other forms of anesthesia for the accomplishment of the same ends, and their importance must be considered as relative. New methods are always on trial. The slightest disagreeable by-effect is often held to be sufficient grounds on which to condemn the entire procedure. Yet, if the untoward effects are not of a serious nature, they become matters of little concern as the method gains wider acceptance. In the case of ether narcosis, the smothering sensation of the patient, his struggle in the excitement stage, the occasional vomiting spells, the postanesthetic delirium, the irritable stomach, the effects on the liver, kidney and lung, are all minimized. Even the occasional anesthetic death is taken as inevitable in any considerable series of cases. It is not difficult to imagine the trepidation with which ether narcosis was at first administered. And the disagreeable features of every such administration are not to be denied. These statements are made not to disparage ether narcosis but merely to emphasize the disagreeable by-effects that exist. The merit of the method is so firmly established that these factors are all but ignored.

On the basis of strict comparison, it cannot be said that the untoward effects from brachial plexus block are of more severity than those of inhalation narcosis. Furthermore, even in the experimental era, complications and disagreeable by-effects occurred with only a small percentage of patients, while the average patient receives the brachial plexus anesthesia without unfavorable symptoms.

The foregoing discussion of the unfavorable aspects of the subject has been intentionally allotted more space than is warranted by the frequency and severity of such occurrences. This has been given, first, to promote familiarity with all possible by-effects; secondly, to evaluate them, and, thirdly, to warn against too free and unguarded use of this procedure. We desire to point out certain precautionary measures which this study has impressed on us as important considerations in securing the best results with brachial plexus anesthesia.

PRECAUTIONARY MEASURES

The precautionary measures may be briefly reviewed and summarized as follows:

1. Synergistic drugs should be used. Although an intelligent, cooperative patient may be injected with complete success without preliminary narcotics, yet, consistently favorable results throughout an unselected series of cases can be obtained only when the patient's alertness has been dulled, before the regional block is attempted.

2. Contact with the nerve trunks must be avoided. The cords of the plexus cannot be touched by the needle with impunity. Shock and injury to the fibers alike are invited by the practice of seeking paresthesias before injecting the anesthetic solution.

3. The operation must be delayed until the finger tips are insensitive to pain. One of the most certain causes of partial failure is to commence the operation before the anesthesia has had time to become complete. This interval may be as brief as five or as long as thirty minutes. The custom of promiscuously sticking needles throughout the limb immediately after the injection has been made, for the purpose of testing the degree of anesthesia, cannot be too strongly condemned. The patient's confidence is too often utterly destroyed by this method. An excellent rule is to keep the patient quiet for an interval of fifteen minutes and to make the first tests for anesthesia not sooner than at the termination of this period. The regional anesthetist should have control of the time relations of the operative schedule. Reinjection of the plexus is indicated if the finger tips are not insensitive to pain at the end of thirty minutes.

4. The patient must be kept recumbent. Toxic manifestations are minimized by maintaining the patient in this posture throughout the entire period of anesthesia.

5. The patient must be kept under observation until the anesthetic effects have worn away. The induction of regional block does not constitute an excuse for inadequate after-care. The patient who has been temporarily deprived of certain faculties demands trained assistance until these faculties have been restored. Regional anesthetists must insist that their charges receive the same thorough attention that is the routine after inhalation narcosis. This after-care is not identical in character with that following other methods, but must be equally intelligent; for example, special observation must be maintained when an insensitive forearm has been placed in a plaster cast, and the extremity must not rest on any hard surface or bear the patient's weight. In certain instances the injection itself has been held responsible for some effects which could be readily traced to improper after-care.

To summarize, these precautions of drug synergism, recumbency, subfascial injection, adequate delay, and trained postanesthetic observation are entirely in addition to the use of correct instruments and the proper technic in passing the needle. Satisfactory end-results depend on the rigid adherence to a guarded routine.

CONCLUSIONS

1. Brachial plexus block may be employed for any operation on the upper extremity.

2. The advantages of this form of anesthesia are:

(*a*) The anesthesia is limited to the upper extremity, leaving the vital centers intact.

(*b*) Cooperation is possible between the conscious patient and the surgeon.

(*c*) The regional anesthetist is free to assist the surgeon at the time of operation, while the surgeon-anesthetist may work alone in emergencies.

3. The disadvantages are few:

(*a*) Complications occur in only 2 per cent of cases.

(*b*) Disagreeable by-effects and complications, when present, are mild and transient; they are not of greater severity than those following other methods of anesthesia for accomplishing the same ends.

4. Brachial plexus block cannot be successfully employed, in any series of cases, without following certain precautionary routines, and it is not recommended for use in the average surgical dispensary.

5. By adhering to these precautionary routines, operations may be successfully completed without additional means of anesthesia in 97 per cent of patients receiving brachial plexus block.

6. These precautionary routines are:

(*a*) To utilize preliminary narcotics.

(*b*) To avoid contact with the nerve trunks.

(*c*) To delay operation until the full anesthetic effect has been reached.

(*d*) To keep the patient under observation in the recumbent posture until the anesthetic effects have worn away.

SKIN REACTIONS

WITH FILTRATES OF CULTURES OF KOCH STRAIN OF TUBERCLE BACILLUS GROWING IN LONG'S SYNTHETIC MEDIUM *

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AND
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A report [1] was made recently of the reactions obtained on intracutaneous injection of filtrates of cultures of the Koch strain of tubercle bacillus growing in nutrient broth containing 0.1 per cent of dextrose and 0.1 per cent of dibasic sodium phosphate in place of sodium chloride. Since then, further observations have been made with filtrates of cultures of the same strain growing in Long's synthetic medium.[2]

The formula for Long's medium is as follows:

	Gm. or Cc.
Asparagin	5
Ammonium citrate	5
Potassium acid phosphate	3
Sodium carbonate (dry)	3
Sodium chloride	2
Magnesium sulphate	1
Ferric ammonium citrate	0.05
Glycerin	50
Water	1,000

A five day growth was passed through Berkefeld N filters and the filtrate diluted with physiologic sodium chloride solution for the skin tests. As a rule, 0.1 cc. of the filtrate, diluted 1:50, was injected intracutaneously in the forearm, but in persons with a thin skin the arm was more satisfactory.

Within twenty-four hours the majority of apparently normal persons develop, at the site of the injection, an area of redness that varies from 1 to 3 cm. in diameter and reaches its maximum in from twenty-four to forty-eight hours; after fading, there frequently is left a pigment spot that may persist for several days and in some instances for several weeks. Such reactions are classified as positive and may be graded as one, two and three plus, according to degree. In a second type of reaction the area of redness is smaller, from 5 to 10 mm. in diameter, and disappears after forty-eight hours without leaving any pigmentation. This reaction is considered doubtful. The tests without reaction at the end of forty-eight hours are classed as negative. Controls of the medium diluted with physiologic sodium chloride solution are uniformly negative.

Skin Reactions with Filtrates, Diluted 1:50, of Cultures of the Koch Strain of Tubercle Bacillus

Kind of Filtrate	Type of Person	Number	Reactions: Positive	Reactions: Doubtful	Reactions: Negative
Four day growth in nutrient broth with 0.1% dextrose and 0.1% dibasic sodium phosphate	Apparently normal adults	61	47	8	6
	Apparently normal children (from 2 to 10 years of age)	14	2	3	9
	Advanced tuberculosis	35	0	0	35
	Moderately advanced tuberculosis	31	0	0	31
	Incipient tuberculosis	8	0	0	8
Five day growth on Long's synthetic medium	Apparently normal adults	118	105	9	4
	Moderately advanced tuberculosis	17	0	1	16
	Incipient tuberculosis	20*	5	0	15
	Doubtful tuberculosis	15†	11	0	4

* All twenty gave positive reactions to old tuberculin.
† In the four negative cases, roentgen-ray examination showed active tuberculosis in three; in the eleven positive, there were signs of healed tuberculosis with calcification.

The results in various classes of patients are given in the accompanying table, which includes the tests previously made with filtrates of broth cultures of the Koch bacillus.

The active substance in the synthetic filtrate is partly destroyed by heating at 100 C. for one hour; after two hours it is destroyed completely.

Hydrogen ion determination of the medium has given a p_H of from 7.15 to 7.20; of the filtrate, from 7.25 to 7.30.

In this new series also the effect of mixing the serum of tuberculous patients giving negative reactions with an equal quantity of filtrate has been observed. Equal quantities of tuberculous serum and filtrate in one half the dilution for the usual skin test are incubated for one hour at 37 C.; injection of this mixture intradermally in seven normal persons did not give a reaction. The control tests in these persons with the same dilution of normal human serum and filtrate and of filtrate alone gave typical positive reactions. So far, definitely neutralizing effects have not been obtained with the serum of a calf given injections of filtrate in ascending doses for four months.

Intradermal injection of guinea-pigs, rabbits, sheep, dogs and one goat with various dilutions of filtrate has failed to give any consistent results.

SUMMARY

Obviously, the interpretation of the results had better remain tentative. The results now reported are in full accord with previous results [1] with filtrates from growth in nutrient broth. The development of a reaction in

* From the John McCormick Institute for Infectious Diseases.

1. Herrold, R. D., and Saelhof, C. C.: Skin Reactions with Filtrate of Koch Strain of Bacillus Tuberculosis, J. A. M. A. **86**: 747 (March 13) 1926.

2. Long, E. R., and Seibert, Florence B.: Tuberculin, J. A. M. A. **85**: 650 (Aug. 29) 1925.

nearly all apparently normal adult persons that have been injected with filtrates of cultures of tubercle bacilli growing on synthetic medium seems to indicate that a substance is produced here also that acts differently from tuberculin. Reaction in normal adult persons and not in tuberculous patients may mean that, in the presence of an active tuberculous focus, sufficient antisubstance is elaborated to neutralize the toxic principle. Filtrates of cultures on Long's synthetic medium of two other strains of tubercle bacilli, one human and the other bovine, have been tested in thirty-three apparently normal persons, with positive results in twenty-nine and doubtful results in four, and with negative results in two tuberculous patients.

THE SIGNIFICANCE OF THE KAHN TEST *

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The Kahn precipitation test has the obvious advantages of rapidity and economy. In my opinion, based on an experience extending over fifteen months, it is also characterized by technical stability and dependability to a degree not possessed by the Wassermann test. These technical considerations will most probably lead to the adoption of the Kahn test and the discontinuance of the Wassermann by an increasing number of laboratories, as has already been done by the U. S. Navy and the Michigan State Department of Health.

If this view is correct, there remains to be worked out more thoroughly the question of the significance of the Kahn test as an aid in the diagnosis of syphilis.

The ultimate solution cannot be expected by noting the degree of correspondence between any one Wassermann technic and the Kahn test, although this, unfortunately, is partly the method of this paper. Such data merely show that there is a fair degree of correlation between the Kahn test and almost any Wassermann technic. It seems useless, except as a purely preliminary measure, to attempt to interpret a new empiric procedure in terms of an old empiric procedure; this results in a sort of three-ring circus of Kahn, Wassermann and patient, exceedingly difficult to follow, especially since it is not always easy to determine whether the patient is syphilitic or not. As a result of the great variations in technic from laboratory to laboratory, our supposed knowledge of the interpretation of the Wassermann test does not impress me as being on a very firm basis. Also, as pointed out by Coca,[1] whose ideas regarding the use and abuse of the Wassermann test seem to be particularly clear, there has been a general tendency on the part of originators of modifications of the Wassermann test not to consider fully the possibility of the occurrence of false positive reactions. In the work here reported, the Kahn test was markedly more sensitive[2] than the Wassermann technic used in parallel, and this situation has been particularly favorable for recognition of the fact that diagnoses of syphilis cannot justifiably be made on the results of the Kahn test alone, regardless of clinical signs and symptoms.

TECHNIC AND MATERIAL STUDIED

The Wassermann technic used was the Craig[3] modification of the antihuman system, with two changes; namely, two units of antigen instead of one, and an alcoholic extract of beef heart instead of human heart. The results of this test are reported as ++* (complete fixation), +*, +−*, and −.[4]

The routine Kahn test has been perfomed as described by Kahn.[5] In the quantitative procedure, standard antigen (the same as in the routine test) was used with the following serum dilutions: 1:1, 1:5, 1:10, 1:20, 1:40 and 1:80.

The results of both tests were reported, although especial emphasis was placed on the fact that diagnoses of syphilis should not be based on the Kahn test during the experimental period.

The serums came from the Walter Reed General Hospital, from the Hospital of the United States Soldiers' Home, and from army posts within a radius of 100 miles of Washington. Routine specimens were taken on patients entering the first two institutions. From the other places, patients were ordinarily not tested unless the clinician considered a Wassermann test desirable.

TABLE 1.—*Analysis of Kahn Test in One Hundred and Ninety-Seven Persons Giving a Four Plus Reaction*

	Number	Per Cent
Diagnosed syphilis	181	92
Not diagnosed syphilis	16	8

TABLE 2.—*Wassermann Reactions of the One Hundred and Eighty-One Persons of Table 1 Diagnosed as Having Syphilis*

	Number	Per Cent
++* Wassermann	107	59
+−* and +* Wassermann	48	27
Negative Wassermann	26	14

The clinical diagnoses were furnished from within a few days to a month after the performance of the tests. It is, of course, obvious that this study was rendered possible only through the cooperation of the medical officers on duty at the posts sending in serums. My sole functions have been the performance of the tests, and the statistical study of the results.

A point introducing possible error in the diagnoses is that because of the legal status of syphilis in the military service (loss of pay and of certain retirement privileges), there is a marked tendency on the part of soldiers and of discharged soldiers to suppress any history of infection or of previous treatment. This fact can merely be stated, and any effort to correct for it would probably introduce a greater error. However, the situation has compensatory advantages, for clinicians in the military service are thereby forced to be more objective in the examination of patients. After all, the real question of interest is not whether the patient had

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* From the Department of Preventive Medicine and Clinical Pathology, Army Medical School. No attempt is made to express any official attitude for the Surgeon General, U. S. Army, or for the Army Medical School.

1. Coca, A. F.: Essentials of Immunology, Baltimore, Williams & Wilkins Company, 1925.

2. The ratio of ++++ Kahn to ++* (complete fixation) Wassermann reactions was almost exactly 2 to 1. Of the patients who gave negative Kahn reactions only 0.1 per cent had ++ Wassermann reactions, while 3 per cent of those with negative Wassermann reactions had ++++ Kahn reactions.

3. Craig, C. F.: The Wassermann Test, St. Louis, C. V. Mosby Company, 1921.

4. Asterisks have been placed throughout after the Wassermann symbols as a reminder of this changed notation. ++* corresponds to ++++ of the usual scale, while +* includes approximately both +++ and ++.

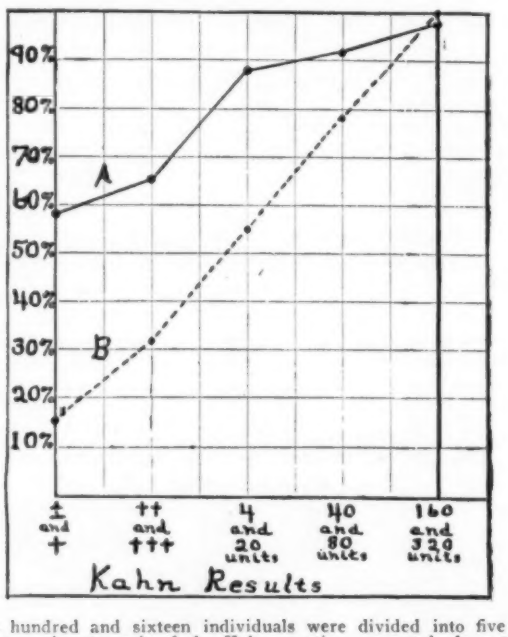
5. Kahn, R. L.: Serum Diagnosis of Syphilis by Precipitation, Baltimore, Williams and Wilkins Company.

syphilis five or ten years ago, but whether he has syphilis now.

In tables 1 and 2, each individual has been counted only once, the result of the first test performed being arbitrarily selected. The cases included were consecutive, except for a small number omitted on account of lack of clinical data.

In other words, the ++++ Kahn reaction detects a much greater number of syphilitic persons than the ++* Wassermann reaction (181 compared to 107), but does so at the penalty of also giving positive reactions in an appreciable proportion of individuals apparently free from syphilis. I am convinced that there is no peculiarity in this comparison resulting from the fact that one of the tests is a precipitation reaction. The same sort of general result could confidently be predicted in comparing two Wassermann technics differing markedly in sensitivity.

However, the proportion of 8 per cent of ++++ Kahns not diagnosed syphilis is believed to be particularly valuable, since it is formulated from data collected while no diagnostic significance was given to the Kahn reaction. It is to be emphasized that this 8 per cent will immediately sink to zero if the ++++ Kahn result is ever interpreted as being diagnostic of syphilis. Every effort should, of course, be made to avoid this method of reducing the incidence of "false" reactions.



Three hundred and sixteen individuals were divided into five groups according to the strength of the Kahn reaction, as noted along the base line. The ordinates of line A represent the proportion of each group that was diagnosed syphilis. The ordinates of line B represent the proportion of each group that had a positive (+* or ++*) Wassermann reaction.

Of the sixteen individuals with ++++ Kahns but not diagnosed syphilis, one had a ++* Wassermann, and six had ±* or +* Wassermann reactions. Further, in seven of the 107 persons with ++* Wassermann reactions and diagnosed syphilis, the diagnosis was made solely on the basis of the Wassermann results without confirmatory clinical data. It is therefore apparent that the possibility of "false" positive Wassermann reactions has by no means been eliminated as far as the work covered by this report is concerned. The diagnoses of the sixteen patients with ++++ Kahn reactions but not considered syphilitic show no tendency to be grouped in regard to their clinical conditions. For that reason, it has not seemed worth while to give their diagnoses in detail in this paper.

QUANTITATIVE AND WEAKLY POSITIVE KAHN REACTIONS

The quantitative Kahn procedure was done on the 197 ++++ Kahn reactions mentioned. In addition, the clinical diagnoses were obtained in a number of individuals giving Kahn tests less strong than ++++. The results have been grouped together and are shown in table 3.

The relationship can be better visualized by means of line A, plotted in the accompanying chart. To this chart has been added line B, showing the proportion of Kahn reactions of any given strength which also give +* or ++* Wassermann reactions. These graphs bring out the following points:

1. The stronger the Kahn reaction, the greater is the probability of the case being diagnosed as syphilis (line A). Fifty-eight per cent of the persons with ± or + Kahns were diagnosed as having syphilis, this proportion increasing to 98 per cent for the 160 and 320 unit reactions.

2. The stronger the Kahn reaction, the greater is the probability of the individual having at the same time a positive (++* or +*) Wassermann (line B).

3. A very high proportion of cases diagnosed syphilis are missed by the Wassermann reaction, but give positive Kahn reactions (approximately, the area between line A and line B).

4. The penalty paid by the Kahn reaction for the latter advantage is the giving of positive reactions in individuals apparently free of syphilis (the area between line A and the 100 per cent line at the top of the chart).

The chief purpose of this paper is to emphasize the first point of the foregoing, which may be restated in the following way: The stronger the Kahn reaction, the greater is the probability of the patient having syphilis. This probability is not a certainty. Nor, as a result of certain considerations in the theory of probability of future expectation based on past experience,[6] would it become an absolute certainty even though line A coincided with the 100 per cent line for the stronger reactions. Therefore, when a physician turns to the Kahn test (or any other empiric test for the diagnosis of syphilis) expecting an absolute answer to the question whether his patient is syphilitic or not, he violates a fundamental logical and mathematical consideration, regardless of the strength of these reactions. The only thing he can do in the presence of an unexpected positive result is to go again into the history of his patient, reexamine him, and perform a spinal puncture or similar procedure. A therapeutic test may be indicated in special instances, though, as mentioned by Stokes,[7] even the results of this may at times be fallacious. If clinical evidence of syphilis is lacking, then the diagnosis of syphilis is not justified. If doubtful evidence of syphilis is present, the case is simply one for the individual judgment of the diagnostician, and, as in many other clinical conditions, rules cannot be laid down. This conclusion is based solely on the fact that line A is sloping, rising from left to right, and not at all on the height of line A at any particular point.

Another consideration detracts from the value of line A in the chart, as far as any future application of it is concerned. As indicated, 58 per cent of the cases showing ± or + Kahn reactions were diagnosed syph-

6. Pearl, Raymond: Introduction to Medical Biometry and Statistics, Philadelphia, W. B. Saunders Company, 1923, chapter XII.
7. Stokes, J. H.: Modern Clinical Syphilis, Philadelphia, W. B. Saunders Company, 1926.

ilis, leaving 42 per cent not so diagnosed. This merely means that 42 per cent of the patients giving these results did not present enough clinical signs to justify a diagnosis of syphilis, and obviously affords no aid whatever to a physician with a patient showing a ± or a + Kahn reaction, but nothing else suggesting syphilis. Patients of this type were not diagnosed as having syphilis in the data from which the chart was constructed, and hence belong to a subclass, 100 per cent of whom were not considered syphilitic. Similar statements likewise apply to the stronger Kahn results.

Since there is no known method by which syphilis can be definitely diagnosed or absolutely excluded in obscure cases, it is entirely possible that some of the 42 per cent of patients mentioned in the preceding paragraph who were not diagnosed as having syphilis actually were syphilitic. What is needed, then, is an answer to the following question: What proportion of patients with a Kahn reaction of any given strength but without other evidence of syphilis actually have syphilis? To obtain an answer, it would be necessary to follow these patients without treatment over a period of a year or two, or even to death and autopsy. The prospect of following enough cases in this manner so as to obtain results of value statistically is nearly hopeless. The situation is further complicated by the following ever-present dangerous probability: some of the individuals diagnosed as having syphilis may not have been syphilitic at all. Such errors are usually beyond the reach of correction. Hence, whatever may be one's views regarding this or similar tests, it must constantly be borne in mind that these views are based on incomplete data. That such data are incomplete, and from the nature of the problem must remain incomplete, is again a warning not to attach absolute pathognomonic importance to the results of serologic tests in syphilis. Serologists, working with incomplete data and with technical variables that can be balanced against one another only imperfectly, can at best hope to devise only tests giving a maximum number of positive reactions in syphilitic persons with a minimum number in nonsyphilitic persons. The result is destined to be only an approximation of the ideal. Under the influence of methods evolved in this manner, and then often subjected to further modification by individual laboratories, the clinical study of syphilis has frequently been neglected to an extent not at all warranted by the accuracy of the procedures.

There is a factor introducing possible bias into the chart. The Wassermann results were reported to the clinicians along with the Kahn results. Both lines in the chart rise from left to right. There is no question but that the rise in the line showing the proportion of cases diagnosed syphilis is to some degree influenced by the rise in the line showing the proportion of cases presenting +* or ++* Wassermann reactions. For this reason the chart can be considered only as a preliminary study. Observations on the clinical significance of the Kahn test can be presented graphically in a final form only when it is known that the clinical diagnoses are influenced solely by the condition of the patient, and not by the results of another empiric test.

This view regarding the interpretation of the Kahn test, although stated with the effort to take into consideration certain statistical principles, does not differ materially from ideas already expressed by certain authors concerning the interpretation of the Wassermann reaction. I have already referred to the views of Coca,[1] and feel that the portion of his book dealing with the Wassermann test should be read by every physician who uses serologic tests as an aid in the diagnosis of syphilis.

A recent paper by Mitchell[8] emphasizes the menace of the weakly positive Wassermann reaction if interpreted as diagnostic of syphilis. However, there is no sharp line of demarcation between a weakly positive Wassermann reaction and a strongly positive one; they grade imperceptibly the one into the other. If we emphasize the menace of the weakly positive Wassermann (or Kahn) reaction, we at the same time emphasize the menace of the strongly positive Wassermann (or Kahn) reaction, being justified in saying only that the latter is less of a menace. It is beyond the scope of human ability to name any one point on the Wassermann scale (or Kahn scale), and say that results beyond this point cease to be a menace.

A quotation from Kilduffe's monograph on the interpretation of the Wassermann reaction[9] is especially interesting in this connection. He states in italics that "an undue incidence of patent and obviously false positive reactions is an indictment of the method whereby the test is performed." This does not help when "false" positive reactions are only occasional and are not patent and obvious. The clinician can protect himself and his patient only by considering every reaction "false" until he has definite clinical evidence pointing to the existence of syphilis in his patient.

TABLE 3.—*Relation of the Strength of the Kahn Reaction to the Diagnosis of Syphilis in Three Hundred and Sixteen Individuals*

	Kahn Results					
			++++			
Patients	± and +	++ and +++	4 and 20 Units	40 and 80 Units	160 and 320 Units	Total
Number diagnosed syphilis....	31	43	71	60	50	255
Number not diagnosed syphilis	22	23	10	5	1	61
Total.....	53	66	81	65	51	316

It is, of course, so well known that negative serologic tests cannot be used to exclude syphilis that the point does not require special emphasis in this paper. The fact is obvious, however, that there are fewer syphilitic persons among those who give a negative Kahn reaction than among those who give a negative Wassermann reaction in this study. Nevertheless, it must be pointed out that this marked difference in sensitiveness between the Wassermann test employed and the Kahn test is only incidental in comparing the two methods. By simple changes in technic, the Wassermann test could have been brought approximately to the degree of sensitiveness of the Kahn, or the Kahn test desensitized to the degree of the Wassermann. One has merely to name the type of test desired, and the serologist will produce it, either by complement fixation, or by varying the technic of the principles of precipitation laid down by Kahn.[10] For these reasons, preference can be given to the Kahn reaction solely on the ground of technical superiority.

It is almost useless to state that scientific medicine does not propose to use indefinitely such empiric procedures as the Wassermann or Kahn reactions in the

8. Mitchell, J. H.: Menace of the Slightly Positive Wassermann Reaction, J. A. M. A. **87**: 1351 (Oct. 23) 1926.

9. Kilduffe, R. A.: The Clinical Interpretation of the Wassermann Reaction, Philadelphia, Lea & Febiger, 1926.

10. This is not meant to imply the possibility of obtaining a one to one correspondence with every serum tested.

diagnosis of syphilis. Ultimately, the substance or substances responsible for the reactions may be known. The nature of these substances can be investigated with much greater chance of success with a simple reaction like the Kahn than by means of the Wassermann with its many variables. For this reason it seems that the Kahn test opens up a new era in scientific progress concerning syphilis.

CONCLUSIONS

1. The stronger the Kahn test, the greater is the probability of the patient being syphilitic.

2. This probability, being based on past statistical experience with an empiric method, never becomes unity, or absolute certainty. No absolute diagnostic significance can therefore be given to any result.

3. The functions of the Kahn test in the diagnosis of syphilis are two:

(*a*) To suggest the possibility of syphilis in patients in whom syphilis was not previously suspected, and thereby lead to more careful and thorough examination.

(*b*) To add an indefinite amount of confirmatory evidence to previous diagnoses or suspicions of syphilis.

4. As a result of a combination of technical, clinical and mathematical considerations, these limitations as to the significance of serologic results apply in varying degrees to all of the different modifications of the Wassermann reaction. The Kahn test is therefore to be preferred as an aid in the diagnosis of syphilis on account of its technical simplicity and greater promise of uniformity.

THE CURABILITY OF INTESTINAL TUBERCULOSIS *

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Intestinal tuberculosis, as regards curability, occupies today much the same position that pulmonary tuberculosis occupied fifty years ago and laryngeal tuberculosis twenty-five years ago; that is, a few acknowledged that recoveries did occur, but when recovery really followed the diagnosis was always gravely questioned. In fact, as late as 1909 Walsh questioned the advisability of even attempting to make a diagnosis of intestinal tuberculosis, for it banished all hope from family, patient, nurse and physician. Pathologists from Bayle, Louis and Rokitansky to very recent times state that a tendency toward healing may be found in an occasional ulcer but report few cases of perfect healing of a single ulcer and no instance of complete healing of secondary intestinal tuberculosis. Recent clinical experience, however, verified in some cases by pathologic examination, has shown conclusively that with modern methods of treatment complete healing of the secondary intestinal tuberculosis does take place, even in the face of an advancing and ultimately fatal pulmonary tuberculosis. Some years ago a method of diagnosis of intestinal tuberculosis was described in THE JOURNAL,[1] and it seems fitting that the practical results of the early diagnosis of the condition should now be published.

It is generally agreed that in most types of tuberculosis the test of time must be added to the other criteria of recovery, for tuberculosis is ever a relapsing disease. The complete abeyance of symptoms in intestinal as well as in pulmonary tuberculosis may follow effectual treatment rather quickly. Indeed, what takes place in some cases in a few weeks recalls what occurs immediately following the crisis in pneumonia: the symptoms largely or completely disappear, but the pathologic condition shows slight or, indeed, no detectable change. In the course of time in each disease more or less marked pathologic changes follow, in pneumonia in a few weeks, in intestinal tuberculosis after some months. In this paper will be discussed (1) the results of clinical observations; (2) a few pathologic records in patients dying from pulmonary or from pulmonary and intestinal tuberculosis, and (3) the occurrence of relapse in intestinal tuberculosis. It should be borne in mind that these statements concern exclusively secondary ulcerative intestinal tuberculosis complicating pulmonary tuberculosis. Only two cases of primary intestinal tuberculosis have come under our observation, one following excision of the lesion, and both have made good recoveries.

CLINICAL OBSERVATIONS

The clinical observations are based on the study of 463 cases, which include six minimal, 245 moderately advanced and 212 far advanced cases, when they are classified according to the extent and intensity of the disease in the lungs. As a matter of fact, according to the classification of the American Sanatorium Association all of these cases would fall into the far advanced group, and this must be taken into consideration when evaluating the results of treatment.

The treatment has consisted of artificial heliotherapy in the form of ultraviolet ray. It has been given rather intensively, for the patients have been subjected to a ten-minute exposure on four quarters of the body with the lamp at a distance of 12 inches and running at its greatest intensity. The treatment has been continued where possible for at least ten months and often longer. It was deemed advisable to continue the treatment for several months after the roentgenologic picture had become normal, for it was thought that even after the superficial ulceration had healed a tuberculous process in the deeper parts might still be present. Other methods of treatment have been tried from time to time in conjunction with the heliotherapy but usually abandoned as of slight value. It is possible that surgical intervention, which was used in nineteen cases with fifteen deaths, may again be called on for help in some of the cases that fail to respond to heliotherapy. The intravenous use of calcium chloride (5 cc. of a 5 per cent solution once or twice a week), the use of acidophilus milk, and the injection of oxygen into the peritoneum have all been highly recommended and have been used in a few of these cases, usually those which have failed to respond to the heliotherapy. In a few instances they too have apparently been of some help. There can be no

TABLE 1.—*Stage of the Pulmonary Tuberculosis and Number of Living and Dead, With and Without Artificial Heliotherapy*

Stage of Pulmonary Tuberculosis	Number of Cases	Artificial Heliotherapy				No Artificial Heliotherapy			
		Living		Dead		Living		Dead	
		No.	%	No.	%	No.	%	No.	%
Minimal	6	6	..	0	..	0	..	0	..
Moderately advanced	245	166	80	41	20	8	21	30	79
Far advanced	212	93	55	78	45	8	19	33	81
Total	463	265	70	119	30	16	20	63	80

* From the Trudeau Sanatorium.

1. Brown, Lawrason; and Sampson, H. L.: The Early Roentgen Diagnosis of Ulcerative Tuberculous Colitis, J. A. M. A. **73**: 77 (July 12) 1919.

doubt that a certain small number of cases of intestinal tuberculosis do heal without any recognized treatment directed against the complication.

The results in regard to the ultimate outcome of the tuberculosis up to the present time are shown in table 1. The figures might be criticized, for some of the patients treated with artificial heliotherapy were in a desperate condition and little could be expected from any form of treatment. The same thing is true also in regard to some of the patients who were not treated with artificial heliotherapy. However this may be, the table shows a marked tendency toward prolongation of life in about two thirds of those treated and in about one fifth of the untreated.

It is quite evident that the figures in table 1 do not tell the whole story, for if a very large number of cases have been recently treated a large number of the patients may still be alive, though all, treated say over a period of two years or more, may have died. Then, again, many may be tottering on the brink of the grave and, while soon to die, still swell the number of those living. To

TABLE 2.—*Analysis of Results in One Hundred and Thirty-Eight Living Patients Treated by Artificial Heliotherapy in Saranac Lake Village and Tabulated According to Time Elapsed Since Diagnosis*

Stage of Pulmonary Tuberculosis	No. of Cases	Years After Diagnosis	No. of Cases	Results None or Questionable	Improvement: Slight	Improvement: Considerable	Improvement: Marked	Healed (Roentgen-Ray Evidence)	Comment
Minimal	4	8, 6, 3, 2	4	..	..	..	2	2	
Moderately advanced	70	6 and 7	7	..	1	..	4	2	
		4 and 5	15	..	..	3	8	4	
		3	11	1	2	1	3	4	
		2	19	..	2	2	6	8	1 less than 1 month
		1	10	1	..	1	6	1	1 less than 1 month
		0-1	8	..	1	1	5	..	1 less than 1 month
Far advanced	64	6, 7, 8	8	..	..	..	5	3	
		4 and 5	6	..	..	..	1	5	
		3	15	2	3	3	5	2	
		2	16	3	5	..	2	6	1 had to give up lamp
		1	7	..	..	..	5	2	
		0-1	12	1	..	5	2	..	4 less than 1 month
Total	138			8	14	16	54	39	7
				6%	10%	12%	39%	28%	5%

refute such imputations, tables 2 to 6 have been prepared. It has been deemed wise to separate the cases treated in the village of Saranac Lake from those treated in the Trudeau Sanatorium, for the former were usually more advanced but had more prolonged treatment, while the latter were usually earlier cases but could not be followed as long. Tables 2 and 3 relate to the village cases, 4 and 5 to the sanatorium cases, while table 6 shows the combined results.

In table 2 can be seen the number of cases falling in each stage of the pulmonary disease, the number of years that have elapsed since diagnosis, and the various degrees of improvement. We have included in the figures seven cases in which artificial heliotherapeutic treatment was given one month or less, and one in which the treatment was given up as the patient was unable to stand it. Of the 138 cases, 11 per cent showed no or only questionable results, 22 per cent slight or considerable improvement, and 67 per cent marked improvement or healing as revealed by roentgenologic study. It should be noted that the last group includes 39 per cent with marked improvement, all symptoms having been lost in most of the cases, and 28 per cent in which the roentgenologic examination showed a normal intestinal tract. Unfortunately, we have been unable to study again, roentgenologically, many of those with marked improvement, and we are sure that many of these have lost abnormal changes and would have passed from "marked improvement" to "healed." A glance at the distribution of the cases according to the years since diagnosis shows that a considerable portion of the cases

TABLE 3.—*Analysis of Results of Treatment of the Intestinal Tuberculosis in Ninety-Eight Patients Dead After Treatment by Artificial Heliotherapy in Saranac Lake Village and Tabulated According to the Condition of the Pulmonary Disease*

	Moderately Advanced					Far Advanced			
			Pulmonary Cavity				Pulmonary Cavity		
Results of Treatment	Number of Cases	Number of Cases	Present	Absent	Hopeless	Number of Cases	Present	Absent	Hopeless
None.....	16	2	2	0	1	14	11	3	10
Questionable	12	3	1	2	0	9	8	1	6
Slight.....	31	10	4	6	4	21	18	3	17
Considerable	20	6	2	4	0	14	13	1	11
Marked.....	19	9	0	8*	2	10	10	0	7
Total.....	98	30	9	20	7	68	60	8	51

* One with insufficient data.

have been diagnosed for three or more years; i. e., 75 per cent of the minimal cases, 47 per cent of the moderately advanced, and 45 per cent of the far advanced cases, or 47 per cent of the whole number. It is clearly seen that the figures are small, but we give them for what they are worth.

This again does not tell the whole story, for many of the dead showed marked improvement in regard to their intestinal symptoms and some were, we know, from pathologic study, actually healed.

TABLE 4.—*Analysis of Results in One Hundred and Twenty-Seven Living Patients Treated by Artificial Heliotherapy in Trudeau Sanatorium and Tabulated According to Time Elapsed Since Diagnosis*

	Number of Cases	Years After Diagnosis	Number Symptomless	Results of Artificial Heliotherapy Improvement: ? or 0 Results	Slight or Considerable	Marked	Healed (Roentgen-Ray Evidence)	Too Short
Minimal (2)	2	0-1	1	..	..	..	..	1
Moderately advanced (96)	2	7	..	..	..	1	1	..
	3	6-7	..	..	..	1	2	..
	2	5-6	1	1	..	..	..	..
	8	4-5	..	2	2	2	2	..
	23	3-4	..	3	9	3	8	..
	14	2-3	..	3	4	..	7	..
	19	1-2	3	2	4	..	9	1
	25	0-1	4	5	5	5	6	..
Far advanced (29)	1	7	..	..	1	..	..	..
	1	6-7	..	1	..	..	..	..
	5	4-5	..	1	2	..	2	..
	2	3-4	..	2	..	..	..	..
	8	2-3	..	2	2	..	4	..
	10	1-2	3	2	..	2	3	..
	2	0-1	1	..	1	..	..	..
	127		13	24	30	14	44	2
			10%	19%	24%	11%	35%	1%

It seems wise for this reason to analyze somewhat more in detail the figures in table 1 relating to the patients that have died. Of the 134 patients that have died after being subjected to artificial heliotherapy, ninety-eight are available for such study (table 3). Of these the treatment showed no effect in sixteen, a questionable result in twelve, slight in thirty-one, considerable in twenty, and marked improvement in nineteen, while three cases were treated too short a time for any results to be expected.

Of the thirty patients in whom the condition was moderately advanced, nine had pulmonary cavity and seven were considered hopeless at the outset of treatment. Of the sixty-eight far advanced, sixty had a pulmonary cavity and fifty-one were considered hopeless at the beginning of treatment. It must always be kept in mind that all these cases were classified as far advanced by the usual methods of classification.

In table 4 may be seen the number of cases falling in each stage of the pulmonary disease, the number of years that have elapsed since diagnosis, and the various degrees of improvement. It should be noted that in table 2, in 134 cases treated in the village, there were seventy moderately advanced and sixty-four far advanced, while (in table 4) at the sanatorium there were ninety-six moderately advanced and only twenty-nine far advanced cases. Attention should be drawn to the interesting fact that among the sanatorium cases were found on routine examination one minimal, twelve [2] moderately advanced, and four far advanced cases of pulmonary tuberculosis with intestinal tuberculosis without any symptoms of the latter at any time. Of the 127 cases, 10 per cent did not show any symptoms, 19 per cent showed no or only questionable improvement, 24 per cent slight or considerable improvement and 11 per cent marked improvement, and 35 per cent were healed according to the roentgenologic observations. On comparing this table with table 2 it will be noted that in the village cases 39 per cent showed marked improvement and 28 per cent were apparently healed. The cases at the sanatorium were under observation a much shorter time than the cases treated in the village. Hence the better results in the village cases. We feel here also that had we been able to reexamine the fourteen cases that showed marked improvement, some would have been apparently healed. Slightly over 50 per cent of the cases in this table had been diagnosed more than two years at the time of study, and 40 per cent more than three years (43 per cent of the moderately advanced and 32 per cent of the far advanced cases).

TABLE 5.—*Analysis of Results of Treatment of Intestinal Tuberculosis in Thirty-Six Patients Dead of Pulmonary Tuberculosis in Trudeau Sanatorium and Tabulated According to Condition of Pulmonary Disease and Years After Diagnosis of Intestinal Tuberculosis*

			Moderately Advanced					Far Advanced				
				Improvement					Improvement			
Number of Cases, 36	Years of Life After Diagnosis	Number of Cases	Number of Cases	? or 0	Slight or Considerable	Marked	Healed (Roentgen-Ray Evidence)	Number of Cases	? or 0	Slight or Considerable	Marked	Healed (Roentgen-Ray Evidence)
Moderately advanced (15)	0-1	12	9	..	..	..	..	3	..	..	..	..
	1-2	2	1	..	..	..	..	1	..	..	..	..
	4-5	1	1	..	..	..	..	0	..	..	..	..
Far advanced (21)	0-1	4	2	1	1	..	..	2	2	..	..	..
	1-2	10	5	1	3	1	..	5	..	2	3	..
	2-3	3	2	1	..	..	1	1	..	..	1	..
	3-4	3	1	1	..	..	..	2	..	2	..	..
	4-5	1	1	..	..	..	1	..	..	..	..	..

It is of interest to note that one third of the patients treated by ultraviolet ray lived over two years, while fourteen out of fifteen not so treated died in less than two years. Of the latter group eleven were in a moderately advanced stage, while of the former ten were far advanced. Of the twenty-one treated only six failed to show some improvement and in three it was marked, while five were apparently healed.

The combined figures of all the patients treated at the sanatorium and in Saranac Lake Village show that of the 229 village patients 57 per cent are alive, while of the 131 sanatorium patients 84 per cent are living. Owing to the limited term of residence, more of the sanatorium cases showed questionable or no improvement than was manifest among the cases in the village (23 and 16 per cent); but owing to the fact that the general condition of the patient is better and the tuberculosis usually less advanced, more of the sanatorium cases are healed (35 and 17 per cent). Of the 241 living patients, 13 per cent showed questionable or no improvement, 25 per cent slight or considerable, 28 per cent marked improvement, and 34 per cent were healed. Of the 119 dead patients, 29 per cent showed no or questionable improvement, 48 per cent slight or considerable, 18 per cent marked improvement, and only 4 per cent were healed. The combined figures for the whole 360 cases were 18 per cent none or questionable, 33 per cent slight or considerable, 25 per cent marked improvement, and 24 per cent healed. As we have stated elsewhere, some of those with marked improvement would be found among the healed had later roentgenologic studies been made.

TABLE 6.—*Results of Artificial Heliotherapy in Three Hundred and Sixty Patients Classified According to Living or Dead*

Results of Artificial Heliotherapy			? or 0	Slight or Considerable	Marked	Healed (Roentgen-Ray Evidence)
Village cases	229					
Living	131	57%	8	30	54	39
Dead	98	43%	28	51	19	0
Sanatorium cases	131					
Living	110	84%	24	39	14	42
Dead	21	16%	6	7	3	5
Total	360		66 18%	118 33%	90 25%	86 24%

PATHOLOGIC OBSERVATIONS

Healing of tuberculous intestinal ulcers has long been described as occurring in one or more ulcers while the disease progresses in others or indeed in even the same ulcer. The weakened condition of many patients without doubt prevents healing, though it can occur in the face of advancing and even fatal pulmonary tuberculosis. Rokitansky in 1842 described very clearly the healing process which he had noted in an occasional ulcer. When the defect is not too great, the irregular borders interlock over the callous and contracting base and finally grow together. The former site is always indicated by a retraction of the wall, forming a fold or, in the girdling ulcers, a projecting ring. At times, teatlike processes are found on the inner surface of the intestine. Attempts at healing have been described by a number of other observers. Spillman and Girode reported such observations from France. Wilson Fox saw a case with complete healing of the ulcers in the small but not of those in the large intestine. Kuthy and Wolff-Eisner report a case in which there was a scar of a healed ulcer in the lower part of the ileum. Habicht described a case in which extensive granulations and regeneration of the mucous membrane, but not complete healing, occurred. In Amenomiya's case he found definite regenerative processes in seven out of twenty-five ulcers. Schünemann studied fourteen ulcers from the small and large bowel and found that all showed some tendency toward healing. Eisenhardt

2. Four of these cases are included in the "healed" column.

found ten ulcers with complete and fifty-five with incomplete attempts at healing, in a study of 566 cases. Schwatt thinks that ulcers may heal completely, to recur again elsewhere, and in fourteen cases noted healing, almost healed, and well healed ulcers.

The best pathologic work so far done along this line is that of L. U. Gardner, who has observed more or less healing in thirteen of thirty-two cases of intestinal tuberculosis. Nine cases were treated by radiation from the quartz mercury vapor lamp. Two, treated for four to six weeks, respectively, did not show evidence of healing, but seven treated for four months or more presented more or less marked healing. This treatment was most effective in restoring the tissues to their normal appearance, which was most marked when the treatment had been continued for two and one-half or more years. Healing was also observed in two cases after operation and in three in which there had not been specific treatment. In five cases complete healing of all the ulceration was noted, and this in patients who eventually died from their pulmonary tuberculosis. The reluctance of some pathologists to perform postmortem examinations on patients dying from tuberculosis and the casual inspection of the intestine in such autopsies may explain why many cases of healing were overlooked formerly. This would be especially true in those cases in which the healing has been so complete that restitution ad integrum had practically taken place.

Pathologic evidence, therefore, can now be adduced to uphold the clinical observation that healing of intestinal tuberculosis can occur in properly diagnosed and treated cases.

RELAPSE IN INTESTINAL TUBERCULOSIS

In our work we have been impressed by two features connected with relapse: first, its great rarity, and, second, its resistance to further treatment. In the 463 cases, the treatment of which we are discussing in this paper, relapse has been noted in only three instances. In one, a moderately advanced case, the intestinal complication had apparently healed and the patient had returned to work. After several months he began to have abdominal symptoms, which failed to respond to artificial heliotherapy or other forms of treatment and led to his death. A second case, moderately advanced, had improved considerably, became negative on roentgen-ray examination, but later was again positive. This patient is now alive and classified as well. The third patient was in a far advanced condition, which became negative on roentgen-ray study after treatment. This improvement was confirmed clinically. About this time the patient used the lamp very intermittently. At a later date the roentgen-ray examination was again positive. This was confirmed by the clinical and symptomatic course of the disease. The patient is alive today but the pulmonary tuberculosis is gradually progressing. Tuberculosis, as we have already stated, is a relapsing disease, and this tendency of the treated patients that apparently recover to remain well is strongly suggestive that their intestinal tuberculosis has completely healed. This is another argument in favor of prolonged treatment. It is, of course, not impossible for a second infection of the intestine to occur. Some pathologic observations would support this view.

COMMENT AND CONCLUSIONS

It has finally been proved beyond all cavil that intestinal tuberculosis can heal completely. This may take place in the presence of an advancing and ultimately fatal pulmonary tuberculosis. Five patients dying of pulmonary tuberculosis presented evidence of healed intestinal tuberculosis. Of 360 patients treated with artificial heliotherapy, of whom 119 are dead, 18 per cent did not obtain any benefit, 33 per cent were slightly or considerably helped, 25 per cent were markedly benefited, and 24 per cent (86 patients) were apparently cured of their secondary intestinal tuberculosis. The rarity of relapse and the pathologic evidence both testify to the curability of this dreaded complication. We do not deny that other methods of treatment may be more effective than the artificial heliotherapy that we have used in many cases ten or more months, but nowhere in medical literature, as far as we can discover, are there recorded so many recoveries from secondary intestinal tuberculosis, accurately diagnosed, as are here reported.

104 Main Street.

TREATMENT OF A CASE OF STRUMIPRIVOUS TETANY WITH PARATHYROID EXTRACT *

AXEL M. HJORT, M.D.
AND
LAWRENCE F. EDER, M.D.
DETROIT

The incidence of strumiprivous tetany varies somewhat, but the records of the best clinics show an occurrence of about one case in every thousand thyroid operations. When encountered, such cases cause more or less concern as to the choice of treatment.

Since the introduction of active parathyroid extracts by Hanson,[1] Berman,[2] Collip [3] and others,[4] only two case reports of their application as a specific in the treatment of strumiprivous tetany have appeared in the literature. Snell [5] reported one case which responded readily either to orally administered calcium lactate, in large doses, or to parenterally introduced parathyroid extract. (The doses given were in terms of cubic centimeters without mention of their unitage). Lisser and Shepardson [6] also reported one case which responded well to parathyroid extract, parenterally administered in relatively small doses. The experience of these two groups of investigators would give the impression that the treatment with parathyroid extract is simple. Such, however, has not been our experience, and we wish to add another case to the series, and to present evidence which shows that treatment with this remedial agent is not free from discouragement.

REPORT OF CASE

A married woman, aged 39, had the thyroid removed at the Receiving Hospital, Feb. 27, 1926. The preoperative conditions that bear on the case were diffuse swelling over the thyroid area, a basal metabolic rate of + 83 and a pulse rate of 126 a minute. On operation, a diffusely hypertrophied gland with some adenomatous areas was found. The gross pathologic changes of the excised thyroid tissue were hemorrhage in both

* From the medical service of the Receiving Hospital.

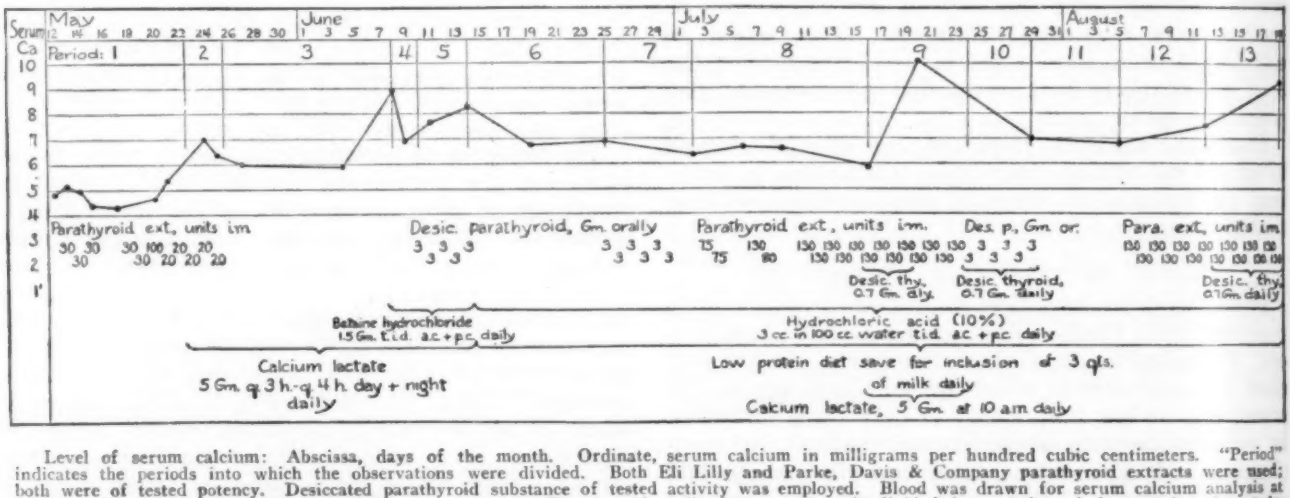
1. Hanson, A. M.: Mil. Surgeon **54**: 76 (Jan.) 1924. Ellingson, E. O.; Bell, A. W., and Hanson, A. M.: Proc. Soc. Exper. Biol. & Med. **21**: 274, 1923-1924.
2. Berman, L.: Proc. Soc. Exper. Biol. & Med. **21**: 465, 1923-1924.
3. Collip, J. B.: Am. J. Physiol. **72**: 182, 1925.
4. Hjort, A. M.; Robison, S. C., and Tendick, F. H.: J. Biol. Chem. **65**: 117 (Aug.) 1925. Fisher, N. F., and Larson, E.: Proc. Soc. Exper. Biol. & Med. **22**: 447, 1925; Am. J. Physiol. **75**: 93 (Dec.) 1925.
5. Snell, A. M.: Parathyroid Extract in Treatment of a Case of Tetany, J. A. M. A. **85**: 1632 (Nov. 21) 1925.
6. Lisser, Hans; and Shepardson, H. C.: Endocrinology **9**: 383 (Sept.-Oct.) 1925.

lobes, and calcification in one. In the central portion of one lobe was found a cystic area, 2 cm. in diameter, filled with old blood. The microscopic examination showed atypical thyroid tissue with coalescing of some of the vesicles. There were interstitial fibrosis, considerable hemorrhage and areas of calcification. Note was not made of the presence or absence of parathyroid tissue in the excised material.

At about a week to ten days after the operation the first symptoms of tetany appeared. These consisted of drawing, cramplike pains in the patient's hands, forearms and feet, and paresthesias of rather general distribution. The symptoms appeared during attacks at irregular intervals, but were not sufficiently annoying to require medical consultation. An apparently subsidiary complaint consisted of a constant, dull, bearing-down pain in the lower part of the abdomen. This, rather than the tetanic symptoms, led the patient to consult a physician. Examination revealed tenderness and a palpable mass in the region of the uterus. She reentered the hospital, May 3, for treatment of the abdominal condition. May 5, a supravaginal hysterectomy was performed, the tubes and ovaries being left in situ. The tumor mass was a fibromyoma of the uterus. May 11, six days following this operation, marked the onset of the tetany, which continued as a chronic disorder throughout the period of observation, save for the relatively brief remissions that occurred after vigorous treatment.

of 100 mg., and a uric acid content of 2.9 mg. per hundred cubic centimeters. During the first week of observation the blood serum calcium, estimated by the Kramer-Tisdall[7] method, ranged between 4.3 and 5.1 mg. per hundred cubic centimeters. May 28 and June 23, the basal metabolic rates were +16 and +15, respectively. During the whole period of observation the pulse rate varied between 80 and 100 a minute, with an average of about 85; the respiration remained quite normal at a rate of 20 a minute; and the temperature was normal save for the short postoperative febrile period.

The patient was confined to the medical ward from May 12 to August 25, during which time she was under daily observation. Ample time was thus afforded for evaluation of the various types of treatment. In planning the treatment, all conditions that might modify the action of the remedial agents were carefully considered. Certain obvious requirements were fulfilled, such as providing an adequate supply of calcium in the food, replacing the hydrochloric acid which gastric analysis showed to be absent, and keeping the patient reasonably quiet. The specific treatment consisted of the administration of remedial agents singly or in groups, as conditions indicated. All calcium medication was introduced orally in the form of a liberal supply of milk or as calcium lactate, in large doses. Parathyroid extract was given parenterally alone, in conjunction with orally administered calcium lactate, and in conjunction with orally administered desiccated thyroid sub-


Serum Ca
May
June
July
August
Period: 1 2 3 4 5 6 7 8 9 10 11 12 13
Parathyroid ext., units im.
Desic. parathyroid, Gm. orally
Parathyroid ext., units im.
Des. p. Gm. or.
Para. ext., units im.
Desic. thy. 0.1 Gm. dly.
Desic. thyroid, 0.1 Gm. daily
Desic. thy. 0.1 Gm. daily
Betaine hydrochloride 1.5 Gm. t.i.d. a.c. + p.c. daily
Hydrochloric acid (10%) 3 cc. in 100 cc. water t.i.d. a.c. + p.c. daily
Calcium lactate 5 Gm. q. 3 h.-q. 4 h. day + night daily
Low protein diet save for inclusion of 3 qts. of milk daily
Calcium lactate, 5 Gm. at 10 a.m. daily

Level of serum calcium: Abscissa, days of the month. Ordinate, serum calcium in milligrams per hundred cubic centimeters. "Period" indicates the periods into which the observations were divided. Both Eli Lilly and Parke, Davis & Company parathyroid extracts were used; both were of tested potency. Desiccated parathyroid substance of tested activity was employed. Blood was drawn for serum calcium analysis at 8 a. m. The parathyroid extract was injected at 8 p. m. The thyroid medication was given in divided doses an hour before meals. As a rule, the calcium lactate was given at 10, 2, 6, 10, 2 and 6; thus, the blood was usually drawn for analysis two hours after the ingestion of the calcium salt, which corresponds with about the maximum rise of the serum calcium after oral calcium administration.

When first observed for the tetany, the patient was rather emaciated and had an anxious expression; she presented plantar and volar flexion, flexion of the hands on the forearms, and flexion of the forearms on the arms. During intermissions in these attacks a positive Trousseau's sign could be elicited, but the Chvostek phenomenon was not observed at any time. During attacks, because of the cramps, the patient was unable to support herself on her legs, and between attacks she held herself erect with difficulty. This clinical picture may have been influenced somewhat by her general condition, that of convalescence from the operation, for she had a fever of from 3 to 4 degrees F. Just how much this condition affected the general symptomatology and what part it played in precipitating the present attack of tetany is difficult to say. However, the subsequent history suggested that perhaps the operation merely served to provoke the attack which progressed into a chronic state.

When the patient was admitted to the medical service, the blood count was 3,360,000 erythrocytes, 16,400 leukocytes and 80 per cent hemoglobin. Four weeks later the hemogram showed 3,900,000 erythrocytes and 9,000 leukocytes per cubic millimeter. Urinalysis showed nothing of interest. May 27, about three weeks after the patient had been admitted to the medical ward, a gastric analysis showed absence of free hydrochloric acid and a low total acidity in both the fasting and test meal specimens. Biochemical analysis of the blood, May 28, showed a nonprotein nitrogen of 27.2 mg., a sugar content

stance. Desiccated parathyroid substance was given orally alone, supplemented by calcium lactate, and supplemented by desiccated thyroid substance, also orally administered.

The various treatments and their modifications proved necessary because of the poor response on the part of the patient to practically all therapy. Curiously, at times she experienced symptomatic relief when there were no evident objective changes. However, she never failed to receive subjective relief when objective improvement was demonstrable in the form of a serum calcium rise, especially when the serum calcium approached the normal level. Mental excitement was one manifestation of calcium starvation in this case. It appeared in the form of a psychosis with maniacal tendencies. She had two such attacks while under observation, which were diagnosed, on the basis of the symptoms, as dementia praecox. On each occasion, complete relief followed successful parathyroid treatment. The details of the treatment, with objective changes, are recorded in the accompanying chart.

COMMENT

A number of interesting points are illustrated by the chart. In the first place, a serum calcium increase did not follow parathyroid injection unless it was supplemented by calcium or thyroid therapy, as shown in

7. Kramer, Benjamin; and Tisdall, F. F.: J. Biol. Chem. 47:475 (Aug.) 1921.

periods 1 and 2, 8 and 9, and 12 and 13 of the chart. The response in period 2 is not remarkable.

Calcium lactate, alone, in doses of 5 Gm. every four hours, day and night, maintained the serum calcium at a higher level than during the first week of observation and at one time increased the calcium to practically a normal value (June 8, period 3). Apparently, the daily fluctuation following the oral administration of calcium lactate is considerable. Supplementing the calcium lactate therapy with hydrochloric acid and desiccated parathyroid substance, orally, failed to give promising results, as indicated in periods 4 and 5. (Differences of 1 mg. or less in the serum calcium level are not to be interpreted as significant, for variations of that magnitude are encountered as daily variations in normal individuals). Hydrochloric acid therapy as here carried out apparently had little influence on the serum calcium level. However, it is at least a rational treatment and may have some effect. Beginning with period 6, the calcium was supplied in the form of 3 quarts of milk daily, and the calcium lactate therapy was discontinued.

During periods 6 and 7, large doses of desiccated parathyroid substance given orally failed again to influence the serum calcium level favorably. During period 8, the psychosis mentioned above occurred, and no relief followed relatively enormous daily doses of parathyroid extract, parenterally. On the face of this observation, it would appear that the extract was no more efficient when injected than when given by mouth. In the course of the study, the patient showed certain signs suggesting thyroid deficiency, namely, alopecia, achlorhydria and secondary anemia, although the basal metabolic rate was normal. On the basis of the supposition that there was thyroid insufficiency, thyroid medication was superimposed on the parathyroid treatment in the form of 10 grains (0.7 Gm.) of desiccated thyroid substance by mouth, daily. It seemed reasonable to expect improvement of alimentary absorption by stimulation of the absorptive epithelium coincident with increase in the general metabolism. With better absorptive function of the intestine, we hoped to increase the calcium reserve of the tissues, which, in turn, would probably make the patient respond better to the parathyroid medication. Favorable results followed this treatment, as shown in period 9 of the chart. At this point the patient's psychic symptoms disappeared. The serum calcium reached a normal level. Parathyroid extract, therefore, is efficacious when administered parenterally, but not in this case until thyroid medication was used as a supplement. This is not true, however, in the case of desiccated parathyroid substance, given orally, even when supplemented by thyroid medication, as is demonstrated by period 10 of the chart.

In going over the medication chart, it was discovered that 5 Gm. of calcium lactate had been given by error at 10 a. m., daily. As the blood samples for calcium analysis were drawn at 8 a. m., the blood picture should not have been influenced by this calcium administration, because of the time interval, according to Hjort,[8] Kahn and Roe,[9] and Bauer and Ropes.[10] However, to rule out all doubt as to this matter, the whole procedure was repeated, the administration of calcium lactate being omitted, following a period of freedom from all medication. The results on this occasion were identical with those mentioned before. Parathyroid extract, 130 units daily, failed during the course of a week to induce any appreciable rise in the serum calcium (period 12 of chart), but on the addition of oral thyroid therapy, the blood serum calcium rose to about a normal level, as can be seen in period 13 of the chart. During period 11, when all medication was withdrawn preliminary to repeating the procedure of periods 8 and 9, the psychosis returned and did not disappear until period 13, simultaneous with objective improvement.

The literature on the beneficial effects of orally administered desiccated parathyroid substance is abundant. The doses usually recommended are small. The evidence presented in the foregoing paragraphs points to the fact that in the treatment of strumiprivous tetany orally administered parathyroid substance is of little value. This does not appear to be too sweeping a statement in light of the fact that the doses herein employed were enormous compared to the recommended therapeutic dose. One gram (15 grains) of the desiccated substance was given three times a day, one hour before meals. The material was of standardized strength, the total daily administration being equivalent to 400 units of the extract. Thus, this gland substance in doses of 166 times the ordinary therapeutic dose failed to influence the blood serum calcium, even when thyroid substance was given as supplementary treatment.

SUMMARY

A case of adult tetany following thyroidectomy was observed daily over a period of three and a half months, and a number of treatments were employed, most of which were attended with failure.

A calcium rich diet and rest proved unavailing.

Large doses of calcium lactate, 5 Gm., every four hours day and night, proved of some benefit, but under this treatment the fluctuations of the serum calcium were too great.

Parathyroid extract given parenterally in large doses, from 20 to 130 units daily, had little, if any, favorable influence on the condition.

Parathyroid extract administered parenterally in doses of 130 units a day caused a favorable reaction in the serum calcium, only when supplemented by oral thyroid therapy.

Large doses, 3 Gm. daily, of desiccated parathyroid substance, administered orally (166 times the ordinary recommended dose), failed to influence the blood serum calcium, even when thyroid treatment was employed in conjunction with it.

CONCLUSIONS

From the experiences here recorded, it is evident that some difficulties are to be expected when strumiprivous tetany is treated with parathyroid extract.

Every condition that might interfere with proper treatment should be corrected, such as facilitating calcium absorption by the administration of hydrochloric acid, when there is achlorhydria or hypochlorhydria, by the administration of desiccated thyroid substance when there is evidence of hypothyroidism, and by supplying an ample quantity of calcium, either by the addition of a liberal amount of milk to the diet or by the administration of calcium lactate in adequate doses.

Desiccated parathyroid substance is not dependable, even when given in relatively enormous doses.

Parathyroid extract may have to be given in comparatively large doses, parenterally. Parathyroid therapy may have to be supplemented by thyroid treatment in order to induce an increase in the blood serum

8. Hjort, A. M.: J. Biol. Chem. **65**: 783 (Oct.) 1925.
9. Kahn, B. S., and Roe, J. H.: Calcium Absorption from Intestinal Tract in Human Subjects, J. A. M. A. **86**: 1761 (June 5) 1926.
10. Bauer, Walter; and Ropes, Marion W.: The Effect of Calcium Lactate Ingestion on Serum Calcium, J. A. M. A. **87**: 1902 (Dec. 4) 1926.

calcium. Thus, parathyroid extracts are efficacious when desiccated preparations are not.

Our conclusion relative to the necessity of thyroid therapy as a supplement to parathyroid treatment of strumiprivous tetany is not drawn as anything definite, for we realize that it is based on only an isolated case. However, the observation was sufficiently interesting to warrant comment with the hope that others might keep it in mind. The mechanism by which the thyroid therapy influenced the action of the parathyroid extract is, of course, problematic, and although given with an objective, it in no way proves that the action was thus exerted. It might even be that the thyroid medication assisted in making available calcium stores which resisted ordinary parathyroid treatment.

The experiences here recorded suggest that replacement therapy is not to be depended on to too great an extent, and that preventive measures, such as autotransplantation of at least one parathyroid gland in a nearby muscle in all cases in which extensive resection is necessary, may be more dependable.

STUDIES OF EXOPHTHALMIC GOITER AND THE INVOLUNTARY NERVOUS SYSTEM

XV. THE DIAGNOSIS OF EXOPHTHALMIC GOITER *

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The patient with fully developed exophthalmic goiter does not present any great diagnostic problem. The classic triad of exophthalmos, goiter and tachycardia, to which may be added tremor and elevation of the basal metabolic rate, is usually unmistakable. While it is true that the tremor and exophthalmos, and even at times the goiter, may be lacking in the syndrome, nevertheless diagnostic errors of omission are uncommon. So clearly defined is the clinical picture that the estimation of the basal metabolic rate may be regarded as a refinement, and will simply serve to corroborate the clinical impression.

In our experience, the greatest error occurs in the too-frequent diagnosis of exophthalmic goiter when the disease does not exist. Exophthalmic goiter is a relatively uncommon disease. In six years' observation at the Mount Sinai Hospital, where, on an average, 8,000 patients are treated in the wards of the hospital each year and 181,477 consultations given in the dispensary annually, we have been able to collect less than 200 cases of true exophthalmic goiter, or one case to every 250 hospital admissions, and one to every 5,000 dispensary consultations.

Particularly in goiter belts, we believe that exophthalmic goiter is a term that is far too embracing. Marine [1] and McCarrison [2] agree that exophthalmic goiter is no more common in a goiter belt than at a sea coast. Of the patients sent to us with the diagnosis of Graves' syndrome or exophthalmic goiter, or toxic adenoma, or hyperthyroidism or dysthyroidism, about 80 per cent suffer from none of these conditions. Were such people to be classified and treated as if they had exophthalmic goiter, our records of the course and prognosis of exophthalmic goiter would be greatly modified, and our faith in all types of therapeutic agents would be greatly enhanced. It is not a difficult therapeutic feat to cure or relieve a patient of a disease from which he has never suffered.

Most of the erroneous diagnoses of exophthalmic goiter are due to two misconceptions: (1) that all who have thyroid enlargement suffer as a result from a derangement of thyroid secretion, or at least are candidates for such a derangement; (2) that in patients who have a thyroid enlargement all the symptoms present are due to that thyroid enlargement. As a matter of fact, neither of these hypotheses has the weight of either clinical or experimental evidence. Thyroid enlargements are usually due to hyperplasia, colloid or adenomatous change,[3] and any one or all of these may be present in normal individuals, in patients with exophthalmic goiter,[4] toxic nonexophthalmic goiter, or myxedema.[5] It is the exception to find that the symptoms of a goitrous individual are due to the goiter. Yet the temptation is great in a goitrous patient to attribute to the goiter any and all symptoms that happen to coexist.

It is also erroneous to presuppose that a goitrous patient is a potential thyrotoxic person. The transition from simple goiter to exophthalmic goiter is relatively uncommon, and as many patients with exophthalmic goiter have had no preexistent goiter as the contrary.

At the present time, the term "goiter" carries an ominous implication. The use of the term "lump in the neck," as practiced particularly by the English, is a great deal happier. Through pardonable overzealousness in propaganda for medical education of the public, the term "goiter" connotes to the layman a rather serious condition. It immediately brings to his mind either mechanical difficulty, such as choking or suffocation, or toxic difficulties, such as "pop eyes" or heart trouble. This "goiterophobia" grows particularly well in the field of the ubiquitous anxiety neurosis. When the symptoms of the "goiterophobia" are added to other anxiety symptoms in goitrous patients, a complicated clinical picture is presented for the diagnostician. Where the diagnostician is impressed by the clinical picture of exophthalmic goiter, and particularly where he is zealous in making a diagnosis of exophthalmic goiter in its incipience, or where the diagnostician, because of his skilfulness in the therapeutics of goiter, particularly surgery, has the wish to be confronted with the problem of exophthalmic goiter, a series of circumstances arises which irrevocably calls forth the diagnosis of exophthalmic goiter and the therapeutic indications. Here the basal metabolic rate furnishes the clue to the diagnosis, for if the test is made under truly basal conditions, i. e., mental and physical relaxation, no elevation will be found. On the basis of this alone, the diagnosis of exophthalmic goiter should be excluded.

First readings of the metabolic rate are usually not basal, because of the patient's fear of the machine, and the difficulty of getting the subject to breathe naturally, instead of overventilating. In any dubious instance, at least two, and preferably three, readings should be made before a final opinion is given. It is our opinion

* From the Medical Service of the Mount Sinai Hospital.

1. Marine, David; and Lenhart, C. H.: The Pathological Anatomy of the Human Thyroid Gland, Arch. Int. Med. **7**: 506 (April) 1911.
2. McCarrison, R.: Brit. M. J. **1**: 178 (Feb. 4) 1922; abstr. J. A. M. A. **78**: 686 (March 4) 1922.
3. Marine, David; and Lenhart, C. H.: Effects of the Administration or the Withholding of Iodin-Containing Compounds in Normal Colloid or Actively Hyperplastic (Parenchymatous) Thyroids of Dogs, Arch. Int. Med. **4**: 257 (Sept.) 1909.
4. Marine, David; and Lenhart, C. H.: Pathologic Anatomy of Exophthalmic Goiter, Arch. Int. Med. **8**: 226 (Sept.) 1911.
5. Smith: J. Biol. Chem. **29**: 215, 1915.

that any rate up to a plus 10 or 12 per cent may safely be ignored. The diagnosis should be held in abeyance in the range of plus 12 to plus 20 per cent, unless the reading is repeatedly confirmed.

We are certain beyond a doubt that, in the goiter belts, many women with anxiety neuroses who happen to have a lump in the neck and its resultant "goiterophobia" are operated on for exophthalmic goiter, and cured of a disease from which they never suffered; that in these instances the operative mortality for subtotal thyroidectomy is extremely low, whereas in true exophthalmic goiter it is often high. These erroneous figures serve as a great public menace, for the average surgeon is encouraged to perform a serious operation, and face an operative mortality far beyond his expectancy.

One further complication frequently is superimposed on the diagnostic difficulties mentioned. This is the presence of the clinical disturbance of the involuntary nervous system which we have described as autonomic imbalance.[6] The involuntary nervous system is an extremely unstable structure in many patients. Its instability may cause symptoms in the realm of the circulatory, gastro-intestinal or nervous systems particularly, so that it may result in the various cardiac neuroses, such as tachycardia and arrhythmias, or in the gastro-intestinal neuroses, such as secretory and motor abnormalities, or in the unclassifiable neuroses "neurasthenia" and "hypochondriasis" of dispensary and private practice. Such instability of the involuntary nervous system is present also in true exophthalmic goiter, and the fact that disturbances of the involuntary nervous system occur in exophthalmic goiter has led many students to the error of considering that all disturbances of the involuntary nervous system are consequently due to abnormalities in thyroid secretion. In such instances, when the basal metabolic rate was found normal, the diagnosis of incipient hyperthyroidism, or formes frustes or dysthyroidism was made, in order to have a medical term to cover an error in logic. As a matter of fact, a very small percentage of disturbances of the involuntary nervous system are due to exophthalmic goiter. Pharmacologically, thyroxin has no effect on the involuntary nervous system,[7] and, contrariwise, stimulation of the involuntary nervous system has never been shown to have caused increased secretion of thyroxin.[8] The majority of persons with disturbances of the involuntary nervous system have these disturbances as the result of a congenital lability. Of all the factors that seem to aggravate this sensitiveness of the involuntary nervous system, emotion is paramount. Acute fear will cause the whole system to respond, for example, with tachycardia, tremor, dilatation of the pupil, exophthalmos, sweating, elevation of the basal metabolic rate, and diarrhea. In a more subtle way all types of emotional disturbances will produce at least part of this syndrome of fear. So it is that, in persons with an anxiety neurosis, autonomic imbalance is frequently associated; and when, in addition to endemic goiter and anxiety neurosis, a "goiterophobia" and a resultant autonomic imbalance are commingled, a diagnostic problem is presented that would baffle all but the most wary. Fortunately it is here that the estimation of the basal metabolic rate serves as an incomparable diagnostic aid, for in endemic goiter, autonomic imbalance, "goiterophobia" and anxiety neurosis the really basal metabolic rate is normal, and it remains normal even when all these conditions are present in the same individual.

We regard ablation of the thyroid gland in endemic goiter associated with any or all of the foregoing conditions as malpractice, unless the operation is clearly done for either cosmetic reasons or for the relief of mechanical symptoms. Mechanical symptoms are extremely rare as we see them, and usually the symptoms of dysphagia and choking are due to anxiety rather than pressure on the trachea or esophagus, and they are just as easily allayed by reassurance and bromides as by thyroidectomy.

We regard as a menace the performance of a subtotal thyroidectomy in any of the foregoing conditions, where the operation is done for the purpose of *preventing* exophthalmic goiter, for in our experience it is just as rare for a patient with any of these conditions to develop exophthalmic goiter as it is for exophthalmic goiter to develop in a patient who has not had any of these conditions. Though it is true that persons with exophthalmic goiter usually give evidence of a preexisting autonomic imbalance, yet the percentage of persons with autonomic imbalance who develop exophthalmic goiter must be less than a fraction of 1 per cent.

The whole of the problem is now rendered much more complicated by the new conception of the toxicity of adenoma.[9] Adenomas of the thyroid may be present in persons who are normal, in those who have simple endemic goiter, in myxedema and in true exophthalmic goiter.[10] So far as we have seen, there is no clinical or experimental evidence to show that adenomas function out of proportion to the nontumor tissue in the surrounding gland.[11] The conception that the presence of adenomas in a gland signifies toxicity is wholly erroneous, based on no satisfactory evidence, in no way contraindicates the careful use of iodides, and has served simply to increase the anxiety neurosis of the patient and the physician, and to widen unnecessarily the indications for operative intervention. It has taken a great many years to drive from the medical mind the error that hyperplasia indicates hypersecretion,[12] and it will undoubtedly take many more to show the fallacy that adenomas are indicative of toxicity. Until this is done, the diagnosis of toxic adenoma or the nonexophthalmic type of exophthalmic goiter will be erroneously made, and hundreds of unnecessary operations performed. Eventually all must realize the error of this conception.

To the minority opinions so courageously advanced by Hoover [12] and Graham,[11] we wish to add our assent. We particularly urge those who are practicing in areas where goiter is endemic to refrain from making the diagnosis of exophthalmic goiter or toxic adenoma unless there is present a distinct elevation of the metabolic rate, taken under basal conditions; and we urge on them to attempt to recognize that in goiter belts, just as at a sea coast, women *will* have anxiety neuroses and they *will* have instability of the involuntary nervous system, wholly independent of any secretory change in the thyroid gland; that where the lay lecturer or unscrupulous copy writer has spread the gospel of fear in the vicinity of such patients, there will exist a "goiterophobia," which will definitely date from the time that the patient was made aware of the "expectant" symptoms. Iodides and reassurance will

6. Kessel, Leo; and Hyman, H. T.: Am. J. M. Sc. **165**: 513 (April) 1923.
7. Lieb, C. C., and Hyman: Am. J. Physiol. **63**: 83 (Dec.) 1922.
8. Lieb, C. C., and Hyman: Am. J. Physiol. **63**: 60 (Dec.) 1922.
9. Plummer: Tr. Am. Phys., 1916, p. 138.
10. Graham, Allen: J. Exper. Med. **24**: 345 (Oct.) 1916.
11. Graham, Allen: Ann. Surg. **82**: 30 (July) 1925
12. Hoover: Am. J. M. Sc. **173**: 11 (Jan.) 1927.

take care of the vast majority of such patients. Occasionally the aid of a psychiatrist will have to be sought. The diagnosis of exophthalmic goiter must not be made when the basal metabolic rate is normal, for it will almost invariably lead to harmful exposure to roentgen-ray or radium therapy, or a wholly unnecessary and dangerous operation.

SURGICAL PROGRESS *

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Albert J. Ochsner was one of that great group—Fenger, Senn, Murphy and Ochsner—who made Chicago a surgical center. Their work has been our inspiration. Christian Fenger taught American surgeons the importance of pathology. He was one of the first in this country to remove stones from the common duct, and the first to describe their ball valve action. He developed and perfected operations for the treatment of tuberculosis of the joints and cancer of the stomach. By invitation he presented the results of his investigations on kidney surgery to the International Medical Congress in Paris in 1900. He established the first pathologic laboratory in Cook County Hospital. At his death the character and importance of his work was emphasized by a monument placed in that institution.

Nicholas Senn, as a student, waited on table for his board, and began his record making experiments on intestinal anastomosis with home-made equipment in a barn in Wisconsin; but when he reported the results of his investigation on peritonitis at the International Congress of Physicians at Moscow in 1897, he was carried in triumph on the shoulders of his fellow scientists about the halls of the arcade and was proclaimed the premier surgeon of the world. He was the author of twenty-three standard books and of 127 volumes of important printed reports, setting forth his investigations and discoveries.

John Benjamin Murphy performed the first appendectomy in America, invented the famous Murphy button for intestinal anastomosis, was one of the first to perform suture of blood vessels, and made highly important contributions to our knowledge of the surgery of the bones, joints, nerves and the lungs. He was ennobled by the pope for his services to humanity, decorated by several of the great powers of Europe and Asia, and the surgeons of America erected this memorial in which we meet tonight as a testimonial of their admiration and respect.

Albert J. Ochsner was one of the first in America to emphasize the value of the microscope to the surgeon, to correlate tuberculous gland infection with tonsillar infection. He was surgically honest and untiring in his service to organized medicine. He developed one of the largest clinics in any city since Ambroise Paré in the sixteenth century made Paris the surgical center of the world. To Ochsner's clinic came surgeons from every country, who spread wide the name and the fame of Chicago surgery. In his honor the American College of Surgeons authorized the establishment of a fund devoted to clinical research, to be known as the Ochsner Endowment for Clinical Research.

What we are and will be we owe to these teachers, just as they drew their inspiration from the illustrious dead who preceded them: Parkes, the preceptor of Ochsner, whose experimental work on gunshot wounds still stands as a model for the inquiring mind; Halsted, who introduced radical resection of the breast for carcinoma; Wolfer, who introduced and perfected gastro-enterostomy; Billroth, who first resected the pylorus for carcinoma, first resected the esophagus, and made the first complete excision of the larynx; Gustav Simon, who first removed the kidney for disease; Lister, the father of asepsis; Simms, McDowell, Valentine Mott and a host of others, whose works live after them.

What constitutes a great surgeon? Guy de Chauliac, the Father of Surgery, in the introduction to his great work of 1365, states it as follows:

> Let the surgeon be well educated, skilful, ready, and cautious. Let him be bold in those things which are safe, fearful in those that are dangerous, avoiding all evil methods and practices. Let him be tender to the sick, honorable to men of his profession, wise in his predictions, chaste, sober, pitiful, merciful, not covetous nor extortionate, but rather let him take his wages in moderation according to his work and the wealth of his patient, and the issue of the disease and his own worth.

I would express it briefly. He should have honesty, imagination, learning, and technical ability. Honesty and imagination are inherent qualities, but learning and technical ability may be acquired.

Learning includes a knowledge of the accumulated experience of the past, and of the contemporary increment from observation and research. Knowledge comes from experimentation and clinical observation.

Hippocrates was the first great clinical observer. To him medicine owes the art of clinical inspection and observation. He founded the bedside method of study, afterward employed with such signal success by Sydenham, Heberden, Laënnec, Bright, Addison, Duchenne, Charcot, and our own Osler.

Galen was the first great experimental investigator. He made the first experimental sections of the spinal cord, producing hemiplegia; he produced aphonia by cutting the recurrent laryngeal nerve; he introduced drugs and food into the stomach, and studied the vomitus artificially produced. "The value of his experimental observations was not surpassed until Harvey discovered the circulation of the blood thirteen centuries later" (Garrison). Since that time the results of experimental medicine have revolutionized our knowledge and practice.

Is it any wonder that, with this store of knowledge accumulated through twenty centuries, the student enters the practice of medicine convinced that there is nothing more to discover, and obsessed with the weight of authority? He finds himself in the position of Paré, who in the dedication of his surgery to the king of France in 1575 wrote:

> God is my witness and men know it well. I have worked more than forty years to illumine and perfect the art of surgery, and in this labor I have striven so hard to attain my end that the ancients have nought wherein to excel us save the discovery of first principles, and posterity will not be able to surpass us (be it said without malice or offense) save by some additions such as are easily made to things already discovered.

Great knowledge acquired from reading and not from actual experimentation engenders a benumbing subservience to the written word. The bespectacled student is notorious for his lack of initiative.

For more than fifteen hundred years the authority of Galen hung like a pall over medicine, and it was not

* Read before the Albert J. Ochsner Memorial Meeting, Feb. 3, 1927.

until 1527 when Paracelsus, the first medical Bolshevik, in Basel had the courage to burn Galen's works publicly and lecture from his own clinical experience, that medicine began to advance again. In one form or another, however, from that day to this, the authority of able physicians has from time to time cast its spell on us. The student accepts the authority of his teacher, and the teacher that of his forebears. If one were to be asked to name the greatest obstacles to the progress of medicine, first place would rightly be given to the weight of authority. A well balanced appreciation of antecedent contributions to medicine is of great value; but when it becomes a slavish adherence to precept, precludes the acceptance of new ideas, benumbs the imagination and engenders the complacent attitude that medicine has reached the limit of its advancement, it becomes a serious menace. The second obstacle to progress is the hasty and ill considered acceptance of clinical and experimental data; and the third, the exaltation of technical skill over diagnostic ability and clinical judgment. The great surgeon, in addition to honesty and imagination, must have learning; but that learning must be stimulative rather than depressive.

He must also have technical ability. By technical ability I do not intend merely the dexterous hand, but the hand trained to do dexterously what an honest, imaginative, learned mind may conceive. I would differentiate the carpenter from the architect, the trained surgeon from the mere technician.

The earnest student asks how this training may be obtained. Before the age of anesthesia, the only operations performed were those of necessity—amputations, traumatic surgery, excision of tumors, removal of bladder stones, and similar procedures. Because of the necessity for rapid operating to lessen the period of pain, an exact knowledge of anatomy was essential. Little knowledge of pathology and less of physiology were required. Consequently, the surgeon spent his preparatory years in the study of anatomy, and the position of head of the department of anatomy in our schools naturally was the stepping stone to that of head of the department of surgery. When the field of surgery was broadened under the beneficent use of anesthesia and asepsis, the nature of pathologic processes became our chief study. Surgery dealt with pathologic processes wherever found. Under anesthesia there was time for careful dissection, and the search for every vestige of the pathologic and its radical removal were of more importance than an exact knowledge of anatomy. Our leaders in surgical thought, therefore, our Billroths, Senns, Fengers and Ochsners, were first able pathologists.

Medicine has now arrived at another period. The anatomic and pathologic surgeon dealt with fully developed pathologic conditions—the ulcer with obstruction, the tumor of the stomach with the vomiting of blood and cachexia, thyroid disease with the large goiter, the appendix with gangrene and suppuration. Moreover, in correcting disease he attempted to restore the anatomy to normal as he understood it, forgetting that it made no difference what the anatomic condition might be provided the body acted in a normal physiologic manner. Therefore, he might do a gastro-enterostomy on a stomach out of what he conceived to be the normal anatomic position, not knowing that the new opening would not function physiologically with an unobstructed duodenum; he short-circuited the ilium to the sigmoid, forgetting that retroperistalsis of the colon would carry the intestinal contents into the blind pouch above rather than hasten its exit through the normal passages; he repaired the fractured bone but did not complete his work with physical therapy to restore the joints and muscles to a normal working physiologic basis. Moreover, he was oblivious of the fact that long before the tumor of the stomach could be palpated, long before the ulcer of the stomach produced obstruction, long before the appendix ended its vicious career in gangrene and suppuration, long before the patient with the toxic goiter had a noticeable swelling of the thyroid, or the gallbladder disease produced stones and jaundice, there had been a considerable period in which a physiologic perversion had been present. He did not realize that he should recognize the varying pictures of indigestion due to cancer or ulcer of the stomach and to chronic appendicitis and assign them to the incipient lesion, that he should treat them long before they gave rise to gross pathologic changes demanding emergency surgery, and that he should anticipate the enlargement of the toxic thyroid and prevent its development or remove it before the devastating consequences attending its growth appeared.

These shortcomings emphasize the fact that we have reached another era of surgical progress—the era of physiology and chemistry, and the present-day surgeon must develop through these departments in our medical schools.

The present-day physiologic surgeon will rewrite the diagnosis and treatment of disease, will anticipate and prevent pathologic changes, and will pursue surgical procedures having for their end the restoration of normal physiologic function rather than normal anatomic conditions. This requires, however, long training in the basic sciences: surgery is less of an art today and more of a science. The young surgeon must be content to spend years in unremunerative laboratory research before he assumes the responsibility for the technical procedures of surgery; great problems are to be solved, equation by equation. Pasteur has rightly stated "In the fields of observation, chance favors only the mind that is prepared."

A generous public has provided buildings and equipment—the material needs—but it must also recognize the necessity for endowment, so that young graduates of ability may spend the early years of their careers in the unremunerative though vitally important basic studies. We are prone to think that we have reached the limit of great discoveries in medicine; but the conquest of yellow fever, scarlet fever, diabetes, is within the memory of the youngest here; pneumonia, cancer and other diseases are not unconquerable; cancer is now being attacked through chemistry, and no one can say but that any day some trained mind may grasp the truth that still lies hidden from us.

54 East Erie Street.

Value of Good Preclinical Training.—Now that the curriculum is becoming so crowded, there is being put forward a view that in the medical training unnecessary stress is being laid on the earlier stages, and that the student learns much more than he needs of the details of anatomy, and even of physiology. Believe me, this is a dangerous doctrine. Any one engaged in clinical teaching knows that the clinical clerk or dresser who has been well trained in those subjects has a quite different grasp of medicine or surgery from that of a student who has only acquired the minimal amount of knowledge needful. However good a practitioner he may make, the man whose knowledge of physiology is slight is little likely to advance the science of medicine; for pathology is anatomy and physiology gone wrong.—Garrod, Archibald: *Brit. M. J.* **2**:622 (Oct. 9) 1926.

Clinical Notes, Suggestions and New Instruments

BRUCELLA ABORTUS INFECTION IN A WOMAN

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A number of cases of undulant fever due to *B. abortus* infection have been reported in the United States. The majority of these have been in males. In the cases of women, no mention has been made of conditions referable to the genital tract, although the bloody uterine discharge is common in cattle having this disease.

The epidemiology of the disease, and the rôle of domestic animals, especially the cow, appears to have been satisfactorily settled following the work of Evans,[1] Huddleson[2] and Duncan.[3] The case reported here is submitted with the added interest of being the first from the large dairy areas of the Pacific Coast states, where *B. abortus* infection is widespread among the cattle. One can but speculate on the possibly unrecognized cases among human beings.

Differential Leukocyte Count

Date	Leukocytes	Lymphocytes, per Cent	Transitionals, per Cent	Polymorphonuclear Neutrophils, per Cent	Eosinophils, per Cent	Basophils, per Cent
1/13/27	4,600	48.5	2.5	48.5	0.5	..
1/15/27	3,100	47	6.5	42.5	3	1
1/16/27	2,300	60	5	35	...	..
1/17/27	2,200	50	4.5	45.5	...	..
1/18/27	2,600	47.5	4	48	0.5	..
1/19/27	2,600	46.5	4.5	49	...	..
1/26/27	3,500	46	2.5	51	0.5	..
2/ 3/27	3,600	43	6	48	2	1
2/ 7/27	3,900	45	3.5	50.5	1	..

In line with the latter thought, the case was presented with the history and all laboratory data excepting the specific agglutination reactions with *B. abortus* antigen, at a staff meeting of St. Joseph's Hospital, Bellingham. Staff members, after several days' survey of the case, pronounced it possibly "typhoid," "malaria," "*Streptococcus viridans* infection" and "influenza."

REPORT OF CASE

Mrs. W., referred by Dr. U. S. Ford of Everson, Wash., aged 25, married six years, had three children living and well; the youngest was six months old. This last child she had nursed for one month. Two months after the birth of the child, she had reached her best weight, 132 pounds (60 Kg.) and was in good health. The family and past histories were negative. The husband was alive and well. The patient had always lived in the state of Washington, and on a dairy farm both before and after marriage. During the autumn of 1926, growing weakness and loss of weight were noted, and during the first week of December there was a temperature of 104 F. in the afternoons. This was verified by the family physician two weeks later. During Christmas week severe chills began, which occurred daily for a week, accompanied by severe occipital headaches during the forenoons. The last menstrual period, December 22, was marked by a discharge of black blood for the first two days, ending normally on the fifth day. Jan. 12, 1927, she was admitted to St. Joseph's Hospital, complaining of fever, weakness and anorexia. Chills had not occurred for the past two weeks. The weight was 110 pounds (50 Kg.). By the end of the first week in the hospital, the weight was 105 pounds (47.6 Kg.).

Physical examination revealed nothing of importance, except elevated temperature, tachycardia and a quantity of mucinous black blood lying in the vagina and covering the cervix, which was soft and blue, as seen in pregnancy.

The erythrocytes were without interest, and the differential leukocyte count was as shown in the accompanying table.

The known causes of leukopenia being eliminated, a blood culture was taken, January 19; when examined, January 22, a growth was not found. Reexamination a week after inoculation, January 26, showed a scant growth of a very small, coccoid, gram-negative organism; subcultures on blood agar were made and after from three to four days showed growth in the form of small grayish, slightly elevated colonies; on microscopic examination these showed the same organism as the blood culture. A growth was not obtained from the urine, taken on two different occasions. Agglutination tests were set up, January 21, with a killed suspension of *Brucella abortus* in dilutions of 1:80, 1:160 and 1:320. There was complete agglutination (macroscopic) in the lower dilutions within fourteen hours, while the 1:320 dilution showed complete agglutination within twenty-four hours.

Control tests with blood taken from ourselves and different hospital patients and set up in the same dilutions remained absolutely negative, even after as long as a week.

Agglutination tests were made on the blood of six cows from the patient's farm, of which two were positive, showing agglutination in a dilution of 1:320.

January 21, 30 cc. of 1 per cent mercurochrome-220 soluble was given intravenously. Severe chills, diarrhea, vomiting and elevation of temperature to 106 F. followed in thirty minutes. By the third day the temperature fell to normal for the first time, where it remained until January 31. A second rise then began and February 2, when the fever stood at 100 F., a second intravenous injection of mercurochrome was given in the same dosage as the first.

The following day the temperature was again normal, and February 7 the patient was discharged feeling weak, but otherwise well. Reexamination, February 26, showed continued normal temperature; the patient weighed 113½ pounds (51.5 Kg.) and her condition was good.

303-305 Medical Building.

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2. Huddleson, I. F.: Is Bacterium Abortus Pathogenic for Human Beings? J. A. M. A. **86**: 943 (March 27) 1926.
3. Duncan, J. C.: The Rôle of the Domestic Cow in the Epidemiology of Undulant Fever, Tr. Roy. Soc. Trop. Med. & Hyg. **18**: 318 (Nov.-Dec.) 1924.

NONCURLING SOLUTION FOR ELECTROCARDIOGRAPHIC PRINTS *

FREDERICK W. KEYES, NEW YORK.

With bromide papers coming into general use in electrocardiography, one of the troublesome problems now confronting the operator of these instruments is the cracking and curling of the finished print.

I believe it is well known among commercial photographers that the use of glycerin will prevent breaking or curling of prints, but this does not seem to be so well known among those operating the electrocardiograph. Therefore it seems worth while to present the method which I have found satisfactory.

After the prints have been thoroughly washed, they should be squeegeed to remove the excess water, which would otherwise dilute the glycerin solution to be used below the point of efficiency. The print should then be immersed in a solution of distilled water, 80 per cent, and glycerin, 20 per cent. While the prints are in the glycerin bath, care should be taken that they do not stick together, and that each one is well washed in the solution. I find that five minutes gives the desired effect. The print should then be removed and hung up to dry. Or, if a high gloss is desired, the print should be squeegeed again, this time on a ferrotype plate which has been previously polished with the regular ferrotype cleaning solution (paraffin and benzene). After the print is dry, it may easily be removed from the plate. It will be found that prints thus treated with the glycerin bath will be quite flexible and will not crack or curl. The amount of glycerine used will not interfere with the stability of the emulsion or cause the prints to stick together when rolled. The glycerin bath does not deteriorate, and may be used indefinitely.

437 West Fifty-Ninth Street.

* From the Department of Physiology of Columbia University College of Physicians and Surgeons.

DRESSING FOR BURNS

HARRY S. FIST, M.D., LOS ANGELES

In the treatment of burns, paraffin-impregnated gauze is the dressing most in vogue. A dressing, to be suitable, should be sterile, nonirritating and nonadherent, should facilitate drainage, and should promote granulation.

The more one is able to promote rapid healing and prevent infection, the less will be the formation of scar tissue.

When gelatin and formaldehyde are placed together, a rubber-like substance is formed, which is impervious to water. Many printing press rollers are made of this preparation.

A dressing that presents several advantages may be prepared by dipping gauze into a hot, dilute, aqueous solution of pure gelatin, drying it, and then treating with solution of formaldehyde U. S. P. of half strength, and finally washing and drying. The result is a gauze that is unaffected by moisture; it will not stick to a granulating surafce, and may be kept in a warm climate or sterilized in an autoclave.

When this prepared gauze has been used as a dressing, granulation has proceeded with great rapidity. Just how much of the stimulation is due to the formaldehyde in the compound is a matter that will bear investigation.

The gauze, when dry, is slightly stiffer than paraffined gauze but softens somewhat when moistened. If well diluted gelatin solution is used, the dressing is not too stiff for application to raw surfaces.

Before the gauze is applied the surface should be well cleansed and then dried, preferably by means of hot air. The dressing should be removed daily, the wound cleansed and dried, and a new dressing applied. Pure gelatin is easily obtainable and should always be used.

Because of lack of space, case histories are omitted.

2007 Wilshire Boulevard.

THE EARLY AND MOST PRACTICAL ASSISTANCE IN CORRECTING THE COMMONEST TYPE OF STRABISMUS OR SQUINT

FREDERICK KINGSLEY, M.D., BOSTON

In my experience, I find the most common type of strabismus the monolateral (one-sided convergent squint). In correcting this condition, I have found the method described here of value. The directions are arranged in the order in which they are to be followed from birth.

1. Beginning at birth, or as soon after as the squint appears, the mother or nurse is instructed, when holding the child in her arms, to hold it in such a position that at the sound of her voice or a touch of her hand the child rotates the affected eye in an outward direction (that is, in the opposite direction to which the eye is turned in the convergent squint).

2. The crib or cot in the nursery should be in such a position that when the nurse or mother enters, the child, at the sound of the voice, or at the touch, will turn the involved eye in the proper direction, which should again be opposite to the squint.

3. When bathing the infant, the same arrangement should be followed.

4. When the child is old enough to eat at the table, if his left eye is involved, he should always be placed at the attendant's right hand; if his right eye, at the attendant's left. This routine procedure should be thoroughly and carefully carried out to obtain the maximum results.

5. Careful refraction and the wearing of glasses should be instituted as early as possible. The age at which it is reasonably safe to order glasses depends on the temperament and early training of the child. I have found that most children can be trusted to wear them at 4 years of age, while in some cases I have been able to order glasses for them at 3 years of age, with best results. But one must be guarded in ordering glasses for the very young child.

6. In all cases of squint, an examination should be made as early as possible for adenoids; if found, they should be removed. Independent of whether the child has reached the age to wear glasses or not, when he is at play, walking, driving or at school, these instructions regarding the placing of the child at the right or at the left hand should be followed.

I have found that parents will follow these instructions much more readily than they will carry out the bandaging, covering or atropine methods, and I have also obtained better results. I find that if these instructions have been carefully followed, when the children arrive at the age of 12, or thereabout, a very small percentage require operation.

416 Marlborough Street.

New and Nonofficial Remedies

RESIGNATION OF DR. GEORGE H. SIMMONS

Resolutions Adopted by the Council on Pharmacy and Chemistry

The following has been unanimously adopted by the members of the Council on Pharmacy and Chemistry.

W. A. PUCKNER, Secretary.

The Council on Pharmacy and Chemistry of the American Medical Association accepts with regret the resignation of the Chairman, who, since 1905, has guided its activities. Before the establishment of the Council, the standard and quality of drugs were left entirely to the manufacturer, except for products in the Pharmacopeia. The rise of the proprietary medicine industry and the numerous attempts made to foist on the public and on the medical profession products without merit led to repeated calls from the House of Delegates of the American Medical Association for an official body to aid in overcoming this evil. You, as General Manager, in February, 1905, first presented to the Board of Trustees of the American Medical Association a plan for the organization of such a body, and in accordance with their decision, arranged for its first meeting, Feb. 11, 1905, in Pittsburgh.

Following the establishment of the Council and the creation of its rules for the protection of the public in the use of drugs, in your double capacity of Editor of THE JOURNAL and Chairman of the Council on Pharmacy and Chemistry, you became a target for a campaign of vilification and abuse that sought, through personal attack, to overcome the high principles which the Council sought to sustain. Today many of those who opposed bitterly the Council's attempt to clean the Augean stables of proprietorship in medicine are enthusiastic in their praises of what the Council on Pharmacy and Chemistry has done for the benefit of American medical science and pharmaceutical manufacture.

It has not only been the function of this Council to cleanse and reform, it has gone even farther in education of the American medical profession in the proper use of medicaments and biologic preparations. Its publication of New and Nonofficial Remedies, Useful Drugs, the Epitome of the Pharmacopeia and National Formulary, its reports of investigation and of therapeutic research, its support of investigations into the rational basis of modern therapy were stimulated by you and have aided progress in every field of medical science.

Despite many obstacles thrown in its path, the Council on Pharmacy and Chemistry under your leadership confidently pursued its allotted tasks, improved its methods, and today still stands as the only medium to which the physician may turn for the unbiased truth regarding proprietary medicines.

In accepting your resignation, therefore, the Council on Pharmacy and Chemistry moves to you a vote of thanks not only on its own behalf but also on behalf of all the medical profession of this country. It expresses the hope that the memory of your leadership may continue to inspire its members today and its work in the future. It asks also that you will not hesitate at any time to take part in its deliberations or to suggest new fields into which it may carry its work.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, MAY 7, 1927

FAT EMBOLISM

That the manifestations of fat embolism are not confined to the pulmonary vessels and the capillaries of the central nervous system, as is commonly assumed, was pointed out some time ago in THE JOURNAL.[1] The kidneys and the liver may also become impaired in function because of the location of fat emboli in their tissues. The importance of the subject consequently acquires added emphasis through the larger number of organ groups that have come into the forefront of possible involvement. The most prevalent belief with respect to fat embolism has assigned the liberation of the objectionable fat particles into the blood stream to mechanical disturbance of fat depots, notably the bone marrow. A traumatic etiology of fat embolism can readily be demonstrated in many instances and by a variety of experimental procedures. Fractures of bones are among the most familiar forms of injury likely to be accompanied by the appearance of intravascular fat in varying quantities and by resulting degrees of capillary occlusion. Consequently, many writers have been content with the explanation that fat embolism is always of traumatic origin.

Lehman and Moore[2] of the department of surgery at the Washington University School of Medicine, St. Louis, have recently challenged this exclusive view. They direct attention to the possibility that the blood fat may become a source of fat in fat embolism. The normal blood, even in digestive lipemia, does not contain neutral fat in droplets large enough to be demonstrated by the usual microscopic examination. The St. Louis investigators maintain, however, on the basis of their studies, that the highly dispersed blood fat can be made to become embolic by mechanisms that undoubtedly apply in the body. Administration of ether is the most conspicuous of the procedures thus far demonstrated. They refer to the possibility that certain ether deaths after prolonged anesthesia may have been caused by fat embolism, by exactly the mechanism referred to. That more such deaths have not occurred may be due to the general practice of starvation before ether anesthesia, a starvation that has been imposed for other reasons. It is possible, also, according to Lehman and Moore, that a proportion of postoperative pulmonary complications, usually ascribed to thrombotic emboli, may actually be the result of fat emboli in the lungs.

The state of aggregation of fats in the blood is subject to modification by various chemical agents. Lehman and Moore refer to the literature of fat embolism in poisonings as suggesting that the physical state of the blood fat should receive consideration in every instance in which medicaments are introduced into the blood stream. This has an obvious bearing on the problems of intravenous medication, particularly as it emphasizes heretofore unrealized potentialities of danger. Certain forms of shock have freely been ascribed to fat emboli, but bone marrow or fat depots have always been held responsible as the sources of the embolic substance. It is well worth while to have the pathogenesis of fat embolism subjected anew to unbiased examination.

1. Some Manifestations of Fat Embolism, editorial, J. A. M. A. **86**: 1076 (April 3) 1926.
2. Lehman, E. P., and Moore, R. M.: Fat Embolism, Including Experimental Production Without Trauma, Arch. Surg. **14**: 621 (March) 1927.

NEW BLOOD CONSTITUENTS

Measured by ordinary time relations of scientific progress through the centuries, it is not long since Liebig was describing the blood as essentially a solution of protein and inorganic salts in which pigment-containing corpuscles are suspended. From a strictly quantitative standpoint, such a description still is entirely warranted. During the last twenty or thirty years, however, attention has been focused on other constituents of the blood that are involved in important physiologic functions, although present in relatively minute amounts. Some of these less conspicuous organic components are nitrogenous, others non-nitrogenous. Biochemists have succeeded in demonstrating in the blood all those components of the urine ordinarily classed as "waste products." With limited exceptions, perhaps, the kidneys serve to eliminate, not to manufacture, them. Urea, creatinine, uric acid, hippuric acid, and similar substances are included in this category of blood constituents. The circulating sugar glucose represents a blood component that is conserved rather than eliminated in health. Amino-acids, doubtless playing the dominant part in protein metabolism, have at length been isolated from the blood. Under conditions of disturbed function, abnormal products, those not occurring usually, such as salts of lactic acid or the "ketone substances," are detectable.

Recently certain organic sulphur compounds have been discovered as blood constituents. One of them, glutathione, was earlier described by Sir Frederic Hopkins as a tissue component and presently identified as a cysteine-glutamic acid complex which readily

oxidizes to cysteine-glutamic acid. Thus it can act as an oxygen acceptor or a hydrogen donator, and reversely. Considerable discussion has lately centered in the possible rôle of glutathione in tissue respiration. Now this remarkable substance has been demonstrated as a normal component of blood.[1] It is commonly present in human and animal corpuscles to the extent of 100 mg. in 100 cc. There is more glutathione in mammalian corpuscles than in mammalian muscle.

A second form of nonprotein sulphur compound in blood has been isolated almost simultaneously by biochemists at the University of Toronto[2] and at the Cornell University Medical College.[3] It has been given the names of sympectothion and thiasine by the different workers. This interesting substance has been identified[4] with the ergothioneine, the betaine thiol-histidine prepared from ergot by Tanret in 1909. It is present in human blood in amounts of from 10 to 25 mg. to each hundred cubic centimeters. Newton, Benedict and Dakin have proposed the name "thioneine" for this unique product, the origin, significance and fate of which in the body can as yet scarcely be conjectured. The foregoing illustrations may suffice to stress the contention that the "little things" in the blood are promising to assume a major interest.

THE DANGER OF IRRADIATING FOODS

Whenever a new discovery is recorded in the scientific world, the danger of improper or unwise exploitation soon looms ahead. The realization of the importance of a supply of iodine for proper thyroid development and function presently encouraged all sorts of attempts to supply the lacking element, particularly in those regions where shortage might be expected to occur. As a consequence iodized salt, iodized drinking water and iodized foods of various sorts were offered for use and exploited with an ardor not entirely devoid of potential dangers of overmedication. There is not only a possibility under such conditions of ingestion of iodine in quantities that may actually be detrimental to some persons rather than universally beneficial, but also the likelihood that the indefiniteness of such dosage methods may fail to secure the ideal therapeutic effects in persons actually in need of the material. Hence THE JOURNAL has tended to advocate methods of goiter prevention that involve definite dosage with iodine-bearing products of known composition rather than miscellaneous intake through specially iodized food and drink. The wisdom of this position has already been indicated by the occasional reports of ill effects from undue iodine intake.[1]

This typical experience lends weight to the recent warnings of our London correspondent[2] against widespread routine irradiation of milk by ultraviolet rays. It is, indeed, known that such a procedure will increase the antirachitic potency of various types of foods, as the studies of Steenbock and Hess in this country in particular have demonstrated. Furthermore, protection against rickets is a desideratum of large value everywhere at the present time. Milk itself is not highly antirachitic, so that any procedure designed to enhance the nutrient value of this important food might be regarded as doubly welcome.

However, Drummond has pointed out the unexpected shortcomings of the irradiation of the mammary secretion. Milk that has been exposed to the radiations of a mercury vapor lamp for as short a time as five minutes not only becomes unpalatable, in that it acquires an unpleasant, tallowy odor, but suffers chemical changes highly undesirable from the standpoint of nutrition. Of these, one is the destruction of vitamin A by oxidation. The use of such a deteriorated product might lead to a shortage of vitamin A in children dependent on milk through an attempt to enrich their diet with vitamin D. The correspondent wisely commented that the tendency to apply somewhat generally the results of laboratory research before they are ripe for practical use is to be regretted. Considerable experimental work remains to be carried out before the conditions have been determined under which so labile and complex a foodstuff as milk can be subjected to the powerful action of ultraviolet or other irradiation without serious impairment of nutritive value. The same caution may apply to other food products soon likely to be offered for sale in an irradiated condition.

THE SYMPTOMATOLOGY OF DISTURBANCES IN ACID-BASE BALANCE

Biochemical studies of the last few years aided by the modern refinements of physicochemical measurements have tended to show a remarkable compensatory function of the body toward influences that make for decided changes in the reaction of its tissues and fluids. This is conspicuously true of the blood, in which the conditions are evidently so adjusted that the hydrogen ion concentration ordinarily undergoes small alterations at most. Evidently the acid-base equilibrium is carefully maintained. According to Myers and Booher,[3] the normal range of p_H probably lies between p_H 7.35 and p_H 7.43. This assumes a normal range of bicarbonate concentration at the same time. Values lower

1. Brand, E., and Sandberg, M.: The Lability of the Sulphur in Cystine Derivatives and Its Possible Bearing on the Constitution of Insulin, J. Biol. Chem. **70**: 381 (Oct.) 1926. Hunter, G., and Eagles, B. A.: Nonprotein Sulphur Compounds of Blood: II. Glutathione, J. Biol. Chem. **72**: 133 (March) 1927.

2. Hunter, G., and Eagles, B. A.: Nonprotein Sulphur Compounds of Blood: I. Sympectothion, J. Biol. Chem. **72**: 123 (March) 1927.

3. Benedict, S. R.; Newton, E. B., and Behre, J. A.: A New Sulphur-Containing Compound (Thiasine) in the Blood, J. Biol. Chem. **67**: 267 (Jan.) 1926.

4. Newton, E. B.; Benedict, S. R., and Dakin, H. D.: On Thiasine, Its Structure and Identification with Ergothioneine, J. Biol. Chem. **72**: 367 (March) 1927. Eagles, B. A., and Johnson, T. B.: J. Am. Chem. Soc. **49**: 575, 1927.

1. Hartsock, C. L.: Iodized Salt in the Prevention of Goiter, J. A. M. A. **86**: 1334 (May 1) 1926. Goiter Prophylaxis Where the Incidence of Goiter is Low, editorial, ibid. **87**: 1832 (Nov. 27) 1926.

2. The Danger of Irradiating Milk, London Letter, J. A. M. A. **88**: 1014 (March 26) 1927.

3. Myers, V. C., and Booher, L. E.: Some Variations in the Acid-Base Balance of the Blood in Disease, J. Biol. Chem. **59**: 699 (April) 1924.

than p_H 7.32 and higher than p_H 7.47 are regarded by them as definitely abnormal. What degrees of variation in hydrogen ion concentration are threatening to life has not been clearly established, though they have been regarded by some writers as extremely small in extent.

In intensive investigations at the Massachusetts General Hospital, Koehler [4] has demonstrated on man that the p_H of the blood can readily be changed by several tenths in either direction from the normal and maintained for several weeks without disastrous effect. Thus, an acidosis of blood p_H 7.30 to 7.20 can readily be produced and maintained for a period of several weeks by the ingestion of orthophosphoric acid, ammonium chloride, calcium chloride, ammonium phosphate or combinations of these substances. An alkalosis of blood p_H 7.50 to 7.55 can be maintained for several weeks by the administration of sodium bicarbonate or sodium citrate. In normal persons recovery from this grade of acidosis or alkalosis is rapid and usually complete in from twenty-four to forty-eight hours. Such marked variations from the normal range to a degree heretofore not often reported are by no means devoid of untoward effects. On the contrary, they are generally attended with more or less distressing bodily symptoms. The malaise is for the most part similar during acidosis and alkalosis of the types indicated; it may involve lassitude, nausea and later vomiting, anorexia, headaches, weakness, listlessness, muscle aches and drowsiness. Opposite effects apparently are obtained in regard to weight and hydration; during acidosis there is decrease in weight with signs of dehydration, while during alkalosis there is evidence of hydration with increase in weight. There seems to be a slight increase in ventilation during alkalosis. The change in total venous blood carbon dioxide during ingestion of acid or alkali parallels closely that of blood p_H as long as there is no renal involvement or respiratory upset.

The symptomatic reactions of both acidosis and alkalosis, it will be noted, are equally characteristic of conditions associated with depression of the energy metabolism as in chronic anoxemia obtained at high altitudes, carbon monoxide poisoning, methemoglobinemia, cyanide poisoning, marked anemia and hypothyroidism. In tissue oxidation, as studied in vitro, the rate of oxygen consumption apparently is at its optimum at approximately the normal blood reaction. It is possible, therefore, according to Koehler's idea, that the ill effects of acidosis and alkalosis are produced through the common channel of depression of tissue oxidation. This conception, he argues, would explain the similar symptomatic effects of two apparently separate and opposite conditions. The well being of man appears, among other features, to hang on the slender thread of effective acid-base equilibrium.

4. Koehler, A. E.: The Effect of Acid and Base Ingestion upon the Acid-Base Balance, J. Biol. Chem. **72**: 99 (March) 1927.

Current Comment

DISASTER RELIEF

The menace of disease associated with the floods in the lower Mississippi basin has aroused all the various organizations interested in public health in this country, since the problems associated with the control of infection and disease under such conditions are numerous. Of great significance is the report published in this issue of THE JOURNAL describing the conference held in Memphis on the call of the medical director of the Red Cross with a view to coordinating the work of the medical profession, the public health officials, the United States government agencies, and all the volunteer agencies that have been called into the field. The conference is epoch marking in the sense that both official and volunteer agencies have recognized the necessity of medical cooperation. The presidents of the state medical societies in the district concerned represented medical interests. The conference may be said to be a direct outgrowth of the excellent report on disaster relief presented at the Dallas session of the American Medical Association by the committee organized for that purpose, and of the conference on public health work held in March at the headquarters of the American Medical Association. In that conference both the national director and the national medical director of the Red Cross indicated their desire to cooperate with the medical profession in all problems related to the public welfare in which the Red Cross might be engaged, particularly in times of peace.

THE SEARCH FOR THE ANTIRACHITIC VITAMIN

Few announcements of biochemical discoveries in recent years have aroused more widespread interest than the reports of the production of antirachitic potencies in certain types of food substances by exposing them to ultraviolet rays. According to Hess and Weinstock, the effective rays in the genesis of an active product are those of a wave length around 300 millimicrons. Investigators were not slow in attempting the production in the laboratory of a compound presumably identical with the antirachitic vitamin of cod liver oil. It had been demonstrated earlier that vitamin D was associated with the nonsaponifiable portion of active oils, and therefore could not be identical with a simple fat. Although the cholesterol-bearing portions of the active oils are potent, it was presently learned that cholesterol as such is not concerned in the antirachitic function. Both Hess and Steenbock, with their respective co-workers, observed that preparations of cholesterol and related sterols could be rendered antirachitic by irradiation with ultraviolet rays. A recent development of the subject [1] suggests that activation in general may be due to some contaminating substance rather than to an alteration in the cholesterol itself. When cholesterol, and likewise

1. Hess, A. F., and Windaus, A.: Contaminating Substances as a Factor in the Activation of Cholesterol by Irradiation, Proc. Soc. Exper. Biol. & Med. **24**: 369 (Jan.) 1927.

phytosterol, was purified with utmost care, it failed to be activated by ultraviolet radiation. These experiences suggest that it is not these sterols themselves but rather some contaminating substance intimately associated with them which acquires the specific antirachitic property by exposure to suitable rays. A recent correspondent in THE JOURNAL [2] has described the precursors of the active substance as "provitamin." With the subject in a state of such active study and continual flux, final pronouncements should be withheld. Today's news may be superseded tomorrow. In any event, the trail of the elusive but highly desired vitamin D is being vigorously pursued.

Association News

DISASTER RELIEF

Special Report on Conference Relating to Health and Sanitation in Flooded District

The Red Cross, through Dr. W. R. Redden, its director of medical relief, on April 27, called by telegraph a conference for April 28, at Memphis, Tenn., of all agencies engaged in medical relief in the Mississippi Valley flooded area. As chairman of the Committee on Disaster Relief of the American Medical Association, I was asked by the General Manager to attend the conference.

There were invited to the conference, and present, the state health officers, or their representatives, of Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri and Tennessee. There were also invited and present in person, or by representatives, the presidents of all the seven state medical societies. There were also present medical representatives from the fourth and seventh corps areas of the army, representatives of the United States Public Health Service, the president and the secretary of the Medical Society of Memphis, the health officer of Memphis, and the representative of the American Medical Association. The states were represented also by sanitary engineers and other aids of the health officers.

The conference was primarily for the purpose of interchanging knowledge with regard to health and sanitary conditions in the affected areas, to discuss methods of meeting the medical and sanitary situation, but especially to come to a clear understanding with regard to the work of the various agencies and to establish their effective cooperation.

In introductory remarks, Dr. Redden and Mr. Henry M. Baker, director of disaster relief of the Red Cross, indicated that they felt that this conference might mark an epoch in medical disaster relief, in that it was an attempt to coordinate early the work of all the agencies involved, to come to understandings, and to lay out a plan of cooperative work which might be a precedent for future similar situations. They offered the support of the Red Cross, to the limit of its resources, in this disaster relief work, to the state health departments, and to medical men engaged in this work.

The Red Cross and the United States Public Health Service are operating as a unit in handling the medical situation, the Red Cross acting as the clearing house. In all their activities they are operating and expect to operate through the state health officers and the organized medical profession.

It was the consensus of the conference that to avoid confusion and overlapping of activities and for the prompt furnishing of personnel and supplies, for the shifting of personnel as conditions indicated, and for the efficient cooperation in all the common problems of the situation, the Red Cross headquarters in Memphis should be the clearing house, and this was arranged for.

The most important items of the meeting were to emphasize the understanding on these points and to establish the routine by which all matters in which cooperation or aid were needed could be cleared directly and promptly through Red Cross headquarters in Memphis.

The Red Cross stands ready and is able immediately to meet the demand for supplies for emergency sanitation, for housing in tents, and for care of the sick in any part of the disaster area. This includes biologic and other medical and surgical supplies, nurses and physicians. In cases of extreme emergency, necessary supplies are being sent by air. An adequate supply of physicians is in reserve, obtained through the cooperation of medical organizations, chiefly in adjacent parts of the country.

Reports in general indicated that conditions in the flooded area and in the refugee camps had been surveyed at present and were well known by the state health officers and the Red Cross, and that the present sanitary and medical problems were in hand. The general opinion, however, was that the difficult problems are the sanitary and health problems of the next few months; the problems that will be involved in the reparation of the flooded areas, and the rehabilitation of the people who have been driven from their homes. There was no minimizing of this problem. There is at present a population of more than 150,000 which has been driven out of the flooded area, and the prospect is that there will be a considerable increase in this number. The present medical problem is to get these people under proper sanitary conditions in the new concentration areas, to prevent sickness and especially epidemics. Measures to this end are now organized and are rapidly being made effective. No epidemics have broken out thus far.

Refugee camps are developing naturally in the nearest adjacent towns, and this is resulting in the sudden tripling and even quadrupling of the population of numerous small towns. This means an excessive demand on the local medical profession. In these camps there is need for extra physicians to look after the population. This need is being met through regular channels and there is being avoided, as far as possible, the undesirable confusion through the rushing in of volunteer physicians. Physicians for local service are being obtained through the local medical organizations.

Numerous interesting lessons are being learned from the emergencies. One is the great value of county full-time health departments. For example, in Hickman, Ky., where there was in existence an efficient full-time health department, the situation was prepared for before it came, was met immediately and efficiently and, for a population of several thousand refugees, was less extensive than the inadequate meeting of the situation temporarily by adjacent communities without full-time health officers, where the number of refugees was only a few hundred.

Another is the value of the disaster relief plan of the Association in furnishing a ready organization in the committees on which medical relief could immediately be developed.

One of the actions taken at the request of Dr. Redden, the representative of the Red Cross, was that the Red Cross would act as far as possible in all medical matters through the local medical organizations, through the presidents of the state medical societies, and through the general manager of the American Medical Association, according to the plan of disaster relief adopted by the American Medical Association at its meeting in Dallas in 1926.

The Red Cross also stated its position to the effect that it felt that some payment, however inadequate, should be made to men called on for medical work, as an expression of the principle that they were entitled to pay for this work when called on for continuous, sacrificing service and, at the request of Dr. Redden, for the formulation of some statement by the conference on this point, it was agreed that the Red Cross would, in addition to "keep," furnish a compensation that at least would amount to an honorarium for the services of medical men whom it called on.

There was no discord of any sort developed in the conference. There was the most helpful spirit of unreserved

2. Isolation of Vitamins, Berlin Letter, J. A. M. A. 88: 854 (March 12) 1927.

cooperation, and there can be no doubt of the value of the conference. I believe the conference should furnish a precedent for similar conferences as soon as possible after all large disasters.

William Allen Pusey, Chairman,
Committee on Disaster Relief.

THE WASHINGTON SESSION

Decoration of Busts and Statues of Famed Physicians in Washington Parks and Institutions

Monday, May 16, at 1:30 p. m.

Dr. Crawford Long, pioneer in ether anesthesia, Statuary Hall, U. S. Capitol, by Dr. Charles Mayo, Rochester, Minn., introduced by Dr. Thomas Groover, Washington, D. C.

Dr. Benjamin Rush, signer of Declaration of Independence, and Surgeon General, Central Division, Revolutionary Army, in front of Naval Hospital, foot of Twenty-Fourth Street, N.W., by Dr. Edward Martin, Philadelphia, introduced by Dr. C. W. Richardson, Washington, D. C.

Dr. Samuel Gross, famed Philadelphia surgeon and teacher, in the hall near the Army Medical Museum and Library, by Dr. Jabez Jackson, Kansas City, Mo., introduced by Dr. Charles S. White, Washington, D. C.

Decoration of statues and busts in the Surgeon General's Library, Seventh and B streets, S.W.:

Bust of Dr. William C. Gorgas, sanitarian of the Panama Canal: Introduction by Surgeon General Merritte W. Ireland, U. S. Army. Placing of wreath by Admiral Edward R. Stitt, Surgeon General, U. S. Navy.

Bust of Dr. Walter Reed, discoverer of the cause of yellow fever: Introduction by Col. Joseph M. Phalen, M. C., U. S. Army. Placing of wreath by Surgeon General Hugh S. Cumming, U. S. P. H. S.

Painting of Dr. John S. Billings, medical bibliographer and designer of Johns Hopkins Hospital: Introduction by Col. Fielding H. Garrison, M. C., U. S. Army, Washington, D. C. Placing of wreath by Dr. William C. Welch.

The Pilgrimage to Mount Vernon

Monday, May 16, at 3 p. m.

The pilgrimage to Mount Vernon will include the placing of a wreath on the tomb of George Washington by the President of the American Medical Association, and another on the tomb of Martha Washington, by the President of the Woman's Auxiliary. No more beautiful spot can be imagined than Mount Vernon in spring. Motor bus parties can be arranged at the hotels or at registration headquarters. Electric trains for Mount Vernon leave the terminal at Twelfth and Pennsylvania Avenue. One hour should be allowed for the trip in either direction.

Exercises at Arlington National Cemetery in Memory of Members of the Association Who Gave Their Lives in the World War

Tuesday Afternoon, May 17, at 2:30 p. m.

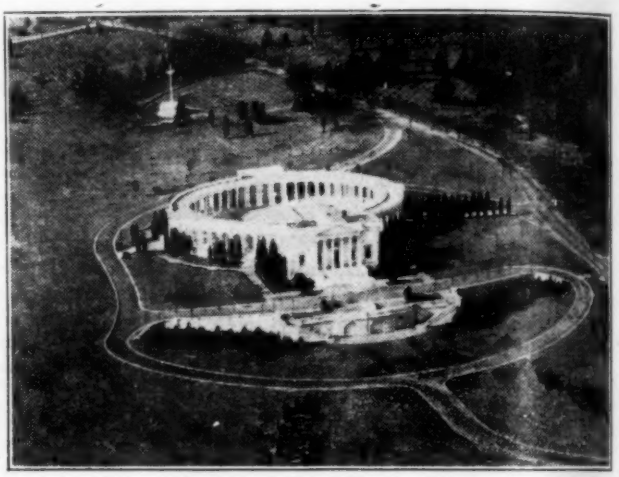
ORDER OF EXERCISES

"Sursum Corda"—Sir Edward Elgar Marine Band

Honorary President of the Day—The Secretary of the Interior, Hubert Work

The President of the American Medical Association
Dr. Wendell C. Phillips, presiding

1. Music—America, sung by audience, accompanied by Marine Band.
   Led by Mr. Charles T. Tittmann
2. Invocation—Rev. Joseph R. Sizoo, D.D., Pastor of New York Avenue Presbyterian Church, Washington, D. C., formerly religious work secretary with the Second Division.
3. Trumpet Call—"Attention," thrice sounded
   (All standing and observing two minutes silence)
4. Termination of Silence—Announced by band playing opening chord of "America."
5. Star Spangled Banner Marine Band
6. Solo—One Sweetly Solemn Thought
   Mr. Charles T. Tittmann
7. Address—Major General Charles P. Summerall, Chief of Staff, U. S. Army.
8. Music—The Belgian Patriotic Air (all standing)
   Marine Band
9. Address—Belgian Abassador, Baron de Cartier, Dean of Diplomatic Corps.
10. Solo—The Heavens Resound Mr. Charles T. Tittmann
11. Music—Nearer, My God, to Thee (sung by the audience)
    Marine Band



Amphitheater in Arlington Cemetery.

12. Procession forms, passing through the apse, led by the clergy, the President, the Secretary of the Interior, the President-Elect, Vice President, Trustees of the American Medical Association, and all others seated in the apse, followed by those in the boxes, and those seated in the Amphitheater to the Tomb of the Unknown Soldier. The President carrying the wreath, presented by the A. M. A., will place it on the tomb, the band playing "Our Honored Dead."

Benediction and Taps

COMMITTEE OF ARRANGEMENTS

The Surgeon General of the U. S. Army, Merritte W. Ireland
Dr. William Gerry Morgan
Dr. John A. Foote Dr. Matthew W. Perry
Mrs. Charles W. Richardson, Chairman

Important Facts About the Arlington Ceremony

Those who propose to attend the Arlington Memorial Ceremony *must apply early for tickets.*

When you register, *ask for your reserved seat if you desire to attend this ceremony.* An additional seat (or seats) for guests may be obtained at the same time. Seats *must* be obtained at the time of registration.

The War Department has stipulated that no one will be seated at Arlington after 2 p. m., although the program is scheduled to begin at 2:30. This will necessitate leaving the central city not later than 1 o'clock, since traffic will be heavy. Tags to attach to cars should be obtained with tickets when you register.

Automobiles will not be allowed to park within the grounds at Arlington but may deposit passengers there. Ample parking space will be provided outside the walls.

Arrangements for motor transportation may be made at all hotels. The Mount Vernon Line, at 1202 Pennsylvania Avenue, will make up special trains leaving the city about 1 p. m. For further particulars apply at the Bureau of Information at Convention Hall.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARIZONA

State Medical Election.—At the annual meeting of the Arizona State Medical Association, Yuma, April 21-23, Dr. Charles S. Vivian, Phoenix, was installed as president; Dr. Arthur C. Carlson, Jerome, was made president-elect: Dr. Hilary D. Ketcherside, Yuma, vice president; Dr. Delamere F. Harbridge, Phoenix, secretary, and Dr. Clarence E. Yount, Prescott, treasurer.

CALIFORNIA

Bills Introduced.—Senate bill 872 and house bill 1263 would create a bureau of narcotics, which would administer the laws relating to the regulation, sale, dispensation and use of narcotics.

Health at San Diego.—Telegraphic reports to the U. S. Department of Commerce from sixty-eight cities with a total population of about 30 million, for the week ending April 23, indicate that the highest mortality rate (20.4) was for San Diego, and that the mortality rate for the group of cities as a whole was 14. The mortality rate for San Diego for the corresponding week last year was 12.8, and for the group of cities, 15.1.

Professor Olmsted Goes to California.—James Montrose Duncan Olmsted has been appointed associate professor of physiology at the University of California, and will take up his work next year. Professor Olmsted is a native of Iowa, and was a Rhodes Scholar at Oxford from 1908 to 1911, receiving his Ph.D. degree from Harvard in 1920; he was associate in physiology at the University of Illinois College of Medicine in 1920, and from there went to the University of Toronto as assistant professor.

New Law Protects Abalones.—Governor Young has signed a bill which creates a biologic reserve along the sea front of the Scripps Institution of Oceanography of the University of California at La Jolla. The new law prevents the collection of and fishing for marine life to a mean low tide depth of 6 feet. It was enacted to protect the abalones, lobsters, mussels and other kinds of marine life from the increasing number of persons who take these animals of the sea for food, which in the last few years has threatened the destruction of the sea front for collection purposes.

Mollie Newkrug.—The state board of medical examiners filed a complaint in municipal court, Los Angeles, charging Mollie Newkrug with violation of section 17 of the medical practice act. The defendant pleaded guilty and was sentenced to pay a hundred dollar fine and serve sixty days in jail. Mollie, who was born in Russia about forty-five years ago, claimed to have been licensed as a midwife in the state of New York. However, "Dr. M. Newkrug" appeared on a sign in her reception room and in her treatment room were bottles, containing "pure oil from the long leaf yellow pine — remedy for rheumatism, gout, lumbago, colds, coughs, neuralgia and skin diseases."

FLORIDA

Personal.—Dr. Clarence W. Shackelford has been appointed superintendent of the Good Samaritan Hospital, West Palm Beach, to succeed Dr. William E. Van Landingham, resigned.

Legislature Develops Interest in Medicine.—Since the diploma mill investigation in Tampa and the indictment of about fifteen various kinds of "doctors," the legislature has been attempting to provide laws that will require better qualifications for persons licensed to treat the sick. A bill has been introduced by Senator Waybright to make it unlawful to practice medicine under any kind of illegal diploma or license or to impersonate another practitioner, or for unlicensed persons to practice or to advertise to practice, or to obtain fraudulently or furnish a medical diploma. Another bill has been introduced which would require physicians to record their licenses with the clerk of the court of the county in which they reside, and to file an affidavit to show that the holder of the license is the person to whom it was issued; that no money was paid for it except the usual fee, and that no fraud was employed by any one to have the license granted. The clerk of the court would report to the secretary of the state board of health annually to show who has filed affidavits. The Tampa *Times* states that another bill is to be introduced to create a state board of naturopathic examiners of three members, to examine naturopaths in anatomy, physiology, pathology, toxicology, histology, hygiene, dietetics, hydrotherapy, physiologic chemistry, obstetrics, gynecology, diagnosis, electrotherapy, manipulation and naturopathy. House bill 442 provides for the licensing of optometrists, and regulates the practice of optometry.

ILLINOIS

Alumni Meeting.—The Alumni Association of the University of Illinois College of Medicine will hold a luncheon, June 1, at the LeClaire Hotel, Moline, Ill., during the second day of the meeting of the Illinois State Medical Society. The association welcomes physicians of other schools who do not have alumni luncheons during this meeting.

Personal.—Dr. Milton E. Bitter, Quincy, has been appointed physician for the Anna Brown Home.——Dr. Frank N. Wells, Pittsfield, has been elected president of the Pike County Sanatorium Board to succeed Dr. Wesley W. Kuntz, Barry, resigned.——Dr. John Shutack, Joliet, has been appointed prison physician, to succeed Dr. William R. Fletcher, who recently became postmaster of Joliet.

Chicago

Interurban Clinical Club.—Under the auspices of the Central Interurban Clinical Club, an assembly was held at Northwestern University Medical School on McKinlock Campus, April 30, to hear reports of original research work being done at that school. In the morning, the members of the Central Interurban Clinical Club held a meeting at the University of Illinois College of Medicine.

Society News.—The Chicago Medical Society held a symposium, May 4, in the Marshall Field Annex on industrial health hazards, the speakers being Drs. George K. Fenn, Hart E. Fisher, William B. Fisk and Sydney Walker, Jr.—— At the clinical meeting of the Chicago Surgical Society, May 6, Research Hospital, University of Illinois, Dr. Dean Lewis, Baltimore, discussed "Pathologic History of Goiter"; Dr. Arthur Dean Bevan gave a clinic on cord tumors, and Jacob R. Buchbinder gave a preliminary report of a study on "The Prevention of Peritoneal Adhesions and Encapsulation." —— The Chicago Neurological Society will hold its annual meeting at Northwestern University Medical School, 303 East Chicago Avenue, May 7; the speakers will be Drs. Meyer Solomon, Roy R. Grinker, Theodore T. Stone, Albert B. Yudelson, Lewis J. Pollock and Loyal E. Davis. ——The Chicago Tuberculosis Society will meet, May 12, at the Brevoort Hotel; the speakers will be Drs. Aaron Arkin, Minas Joannides and Harry H. Freilich; the regular annual meeting and election of officers will be at this time.——Hon. J. A. O. Preus, formerly governor of Minnesota, addressed the Physicians' Fellowship Club, 2451 Kedzie Boulevard, April 29, on "Property Rights."

Regulations for Handling Drugs in Hospitals.—The Chicago department of health issued new regulations, April 15, concerning the handling of drugs in hospitals. Each hospital is now required to post written rules, approved by the board of health of Chicago, in close proximity to each medicine cabinet and in the drug room to safeguard the distribution and preparation of all medicines and solutions. All drugs and stock solutions used in hospitals must be prepared under the direction of a registered pharmacist or physician and carefully labeled. All poisonous drugs must be kept separate at all times from nonpoisonous drugs. All medicines shall be administered only on the written order of a physician, except in extreme emergency. The following rules have been approved by the city board of health:

All containers of drugs or chemicals shall be plainly labeled. So far as possible all labels on stock or solution bottles should be made permanent.

All drugs for internal administration shall at all times be kept in their respective medicine cabinets under lock and key.

Nurse shall not remove drugs from one container to another, nor make any change in labels. Have labels renewed by the pharmacist when necessary.

All poisonous drugs for internal administration shall be kept in a separate cabinet or compartment marked "poisons" in distinctive bottles or boxes plainly labeled as to contents and bearing a distinctive poison label. Nonpoisonous drugs shall not be kept in a poison cabinet.

All poisonous drugs or solutions, for external use, shall be kept separate from nonpoisonous drugs or solutions and shall be plainly labeled as to contents, and shall also bear a distinctive "poison" label.

When about to use any drug or solution a nurse shall read the label when she takes the container in hand, again when she removes the contents, and again when she replaces the container.

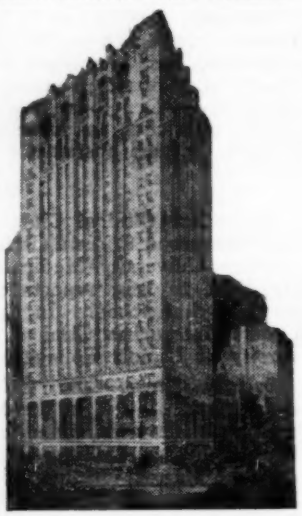
All prescriptions shall be written on the proper blank and signed by an attending physician or intern. All prescriptions for compounding shall be written on the proper blank and signed by the attending physician or intern.

All drugs or solutions shall be prepared under the direction of a registered pharmacist or physician. Nurses shall make no changes in solution except that, when a weaker solution is desired, she may dilute the original solution for immediate use only.

Sterile water for drinking purposes for infants shall not be prepared nor kept in a room used for the preparation or storage of drugs or solutions.

No drugs shall be taken from the medicine cabinets or elsewhere for administration to patients by interns, nurses or others without proper record being made.

Medical and Dental Building Opened.—The new twenty-three story Medical and Dental Building, Wabash Avenue and Lake Street, was opened April 28, two days ahead of time, with about 40 per cent of the space rented. About fifty tenants have already occupied space assigned to them, including physicians, dentists, professional societies and commercial houses. Among the organizations that have rented space are the Chicago Medical Society, Chicago Dental Society, American Dental Association and the Illinois Medical Society for its bureau of public education. The Institute of Medicine and most of the special societies are considering propositions for renting some space for all these affiliated organizations or for separate space for meetings and other purposes. The building is practically completed with the exception of interior decorating in space as yet unrented. The auditorium seating 1,000 persons will be ready for use when regular society meetings begin next fall. The club on the twenty-second and twenty-third floors is nearly finished but probably will not be in use before September 15. The Medical and Dental Building Corporation has authority from the secretary of state of Illinois to issue $1,400,000 worth of common stock, of which $600,000 has been reserved for the club for distribution to members. Under a voluntary conversion plan, by which each member may retain his membership or convert it into a lower form of membership, taking the difference plus a bonus in stock, a reserve of $100,000 is held as treasury stock. Members of the club thus become stockholders in the corporation, and, as the officers and directors of the two corporations are the same, there are two corporations legally distinct but personally the same: one, the club itself, a corporation not for profit, and one, the building corporation, a corporation issuing stock and empowered to pay dividends out of any surplus. Chicago now has for the first time a professional building, a center for the professional activities of the medical and dental professions.



INDIANA

Hospital News.—The board of trustees of the Indiana Methodist Hospital, Indianapolis, announced, April 14, that Mr. and Mrs. John W. Wile, Colfax, had donated $200,000 for the construction of a nurses' home, which will be known as the Jacob E. Wile Memorial in honor of Mr. Wile's father.

Personal.—Dr. Merrill F. Steel, superintendent, Methodist Hospital, Fort Wayne, assumed the duties of president of the Indiana Hospital Association, April 9.——Dr. Charles F. Adams, Chicago, has been made director of the state bacteriologic laboratory to succeed Dr. Thurman B. Rice, who resigned several months ago.

Society News.—Dr. Maxwell A. Bahr addressed the Indianapolis Medical Society, April 5, on "Some Problems of Industrial Psychiatry."——Dr. Loyal E. Davis, associate professor of surgery, Northwestern University Medical School, addressed the Lake County Medical Society, April 14, on "Surgery of Peripheral Nerves."

Dr. Moon Goes to Jefferson Medical College.—Dr. Virgil H. Moon, head of the department of pathology, Indiana University School of Medicine, Indianapolis, has been appointed head of the department of pathology at Jefferson Medical College, Philadelphia, and will assume his duties in June. Dr. Moon graduated from Rush Medical College in 1913, and came to Indiana the following year as associate professor of pathology; in 1917 he was made full professor of pathology.

KANSAS

Protest Against Chiropractic Advertisement.—The physicians of St. John have decided to withdraw their professional cards from the local newspaper as a protest to the appearance therein of a "vicious chiropractic advertisement." Mr. John, a teacher in the high school, replied in an open letter to the advertisement, and the Stafford County Medical Society decided to have published a thousand copies of his letter for distribution.

Society News.—Dr. Ralph H. Major, Kansas City, addressed the April meeting of the Stafford County Medical Society on "Periodic Physical Examinations."——Dr. William A. Shelton, Kansas City, will address the Franklin County Medical Society, May 25, on "What to Do with the Gallbladder."——Dr. Russell L. Haden, Kansas City, addressed the Reno County Medical Society, March 17, on "Focal Infections."——Dr. Arthur Steindler, professor of orthopedic surgery, State University of Iowa College of Medicine, Iowa City, addressed the Shawnee County Medical Society, May 2, on "Enteroptosis."

LOUISIANA

Fuqua Memorial Hospital.—A building to be erected at the Central Louisiana Hospital for the Insane is to be called the Fuqua Memorial Hospital in memory of the late governor, Henry L. Fuqua. The hospital has, it is reported, more than 1,100 patients, the largest number in its history; it is overcrowded, about 200 patients of both races and sexes being quartered on the galleries of the hospital building, which have been closed in by screen and canvas to protect them from the weather. Construction has been started on the new hospital building.

State Society Offers Services in Emergency.—At the forty-eighth annual session of the Louisiana State Medical Society, New Orleans, April 28, the following resolution was adopted offering "a full functioning membership" to the constituted authorities, in case they are required in connection with the flood situation:

WHEREAS, There exists in the state of Louisiana flood waters unprecedented in the history of the state, which are menacing and foreshadowing a serious situation; and

WHEREAS, The Louisiana State Medical Society, representing as it does, the medical profession of Louisiana, has taken cognizance of the situation with a view of placing its personnel at the disposal of the constituted authorities in the event their services are needed; be it therefore

Resolved, That members of the Louisiana State Medical Society, in executive session in New Orleans, do hereby commend the projected act of the governor in relieving the situation below New Orleans and offer to the constituted authorities a full, functioning membership should their service be required.

Personal.—Dr. Bert L. Stinson, Great Bend, Kan., has taken up the duties of director of the Tangipahoa Parish Health Unit, succeeding Dr. T. C. W. Ellis.——Associates of Dr. James F. O'Leary, Shreveport, gave a dinner, January 29, to celebrate his eightieth birthday; Dr. O'Leary is still in practice. Dr. Francis S. Furman, the toastmaster, presented a suitable remembrance to the guest of honor.——Dr. F. E. LeJeune, New Orleans, addressed the eye, ear, nose and throat section of the Tennessee State Medical Association, April 14, Chattanooga, on "Some Phases of the Lynch Operation."——Dr. William F. Brooks has been appointed president of the board of health of Vinton.——The Royal College of Surgeons of England conferred an honorary fellowship on Dr. Rudolph Matas, New Orleans, April 7, in London, during his visit in London to attend the Lister Centenary.——Dr. C. W. Boring was elected mayor of Breaux Bridge, April 12.

MASSACHUSETTS

Dr. Alice Hamilton Sues Angier Chemical Company.—Dr. Alice Hamilton, Boston, assistant professor of industrial medicine, Medical School of Harvard University, and a member of the medical commission of the League of Nations, has brought suit for $20,000 against the Angier Chemical Company of Boston. It is alleged, according to the report, that Dr. Hamilton's photograph was published without her knowledge on the front page of "The Angier Idea," May, 1926, and that thereby she was humiliated and her professional reputation impaired.

Personal.—Dr. William T. Hopkins has been appointed health commissioner of Lynn to succeed Dr. Michael R. Donovan.——Dr. William H. Bennett, Jr., has been chosen chairman of the board of health of Taunton.——Dr. Joseph W. Schereschewsky, for several months in charge of the federal quarantine station in Boston, has been relieved by Dr. Alvin R. Sweeney, transferred from Port Arthur, Texas; Dr. Schereschewsky will return to the Harvard University Medical School.——Dr. Clara Loitman has been appointed supervisor for the city schools of Boston, following a civil service examination. Dr. Loitman will continue her private practice and instructorship in pediatrics at Boston University School of Medicine.

Cancer Hospital in Boston Opened.—The Palmer Memorial Hospital, 195 Pilgrim Road, Boston, with a bed capacity of seventy-five and a large outpatient department, was opened for the care of cancer patients, April 20. There are rooms adapted for radium treatment, a completely equipped roentgen-ray department, and a well equipped group of rooms for pathologic work. The building is a five story, fireproof structure, with a large sun parlor on the roof and a basement above ground. Between the two larger operating rooms on the fourth floor is a small pathologic laboratory equipped for frozen section work; there is also a sun room on each floor. At the opening exercises, Mr. William T. Rich, president of the New England Deaconess Hospital Association, presided, and the chief of staff, Dr. Daniel F. Jones, introduced the speakers. The staff comprises, besides Dr. Jones, Dr. Elliott P. Joslin and Dr. Shields Warren. There are eight physicians on the consulting staff and five on the associate staff. The hospital is closely allied with the Deaconess Hospital.

MICHIGAN

Society News.—Dr. Harry B. Knapp, Battle Creek, addressed the Eaton County Medical Society, recently, on "Common Orthopedic Problems in Common Practice."——Dr. Guy L. Kiefer, state commissioner of health, addressed the Ionia-Montcalm County Medical Society, Ionia, March 10, on "Cooperation Between Physicians and the State Health Department"; Dr. Kiefer also addressed the Kent County Medical Society at its January meeting, and Dr. Frankwood E. Williams, director National Committee for Mental Hygiene, the February meeting on "Mental Health Aspects of General Medicine." Dr. Kiefer addressed the Jackson County Medical Society, February 22; this society has organized an emergency relief unit for disaster in cooperation with the Richard F. Smith Post, number 29, American Legion.——Dr. Esli T. Morden, Adrian, addressed the March meeting of the Lenawee County Medical Society on "Diseases of the Ear, Nose and Throat"; in April this society held a joint meeting with the Lenawee Bar Association and Dr. Frank B. Tibbals, Detroit, was the speaker.——Dr. Grover C. Penberthy, Detroit, addressed the St. Clair County Medical Society, Port Huron, March 3, on "Fractures," and Dr. Joshua G. R. Manwaring, Flint, on "Chemical and Physical Characteristics of Healing an Infection of Wounds."——Dr. Max M. Peet, University Hospital, Ann Arbor, addressed the Medical Society of Gratiot, Isabella and Midland counties at Alma, March 24, on "Treatment of Cranial Injuries," illustrated by lantern slides.——The Wayne County Medical Society met, May 3, in the new building of the Detroit College of Medicine and Surgery, and was addressed by Dr. Carl A. Hamann, dean of the Western Reserve University School of Medicine, Cleveland, and for many years directing librarian of the Cleveland Medical Library.

MINNESOTA

Society News.—The Hennepin County Medical Society, Minneapolis, was addressed at its regular meeting, May 2, by six physicians who have returned from Europe in the last year, and who gave a summary of medical conditions as they saw them there.

Governor Signs Basic Science Bill.—The governor approved the basic science bill (S. 892), April 13. This bill provides for an examination in anatomy, physiology, pathology, bacteriology, hygiene, and, after 1931, chemistry, as a prerequisite to eligibility for examination for license to practice healing in the state of Minnesota. The examination is to be conducted by a state board of examiners in the basic sciences, consisting of professors from any university or college in Minnesota.

MISSISSIPPI

Personal.—Dr. Taswell P. Haney, Jr., has been elected full-time health officer of Tishomingo County to succeed Dr. Frank T. Carmack; Pike, Lincoln, Lauderdale and Yazoo counties are planning full-time health departments, beginning Jan. 1, 1928.——Dr. Eldridge J. Banks, Baldwyn, has joined the staff of the psychopathic hospital at Jackson, and Dr. Willian H. Anderson, Booneville, has been appointed to succeed him as county health officer.

Society News.—At the April meeting of the Homochitto Valley Medical Society, Natchez, Dr. Jacob S. Ullman, Natchez, reported a case of tularemia; Dr. John W. D. Dicks, Natchez, read a paper on "Value of Periodic Health Examinations," and Dr. Frank H. Hagaman, Jackson, "Disabilities of the Hip Joint."——Dr. James Percy Wall, Jackson, addressed the Clarksdale and Six Counties Medical Society, March 24, among others, on "The Life of Louis Pasteur," and Dr. Henry Boswell, Jr., Sanatorium, on "Early Diagnosis of Tuberculosis."——The June meeting of the North East Mississippi Medical Society will be held at Shiloh Park, Corinth, the noted battle ground.

MISSOURI

Editor Experiments with Clinical Charity.—The editor of the *Bulletin of the St. Louis Medical Society*, it is reported, recently arranged for two women to appear as charity patients at a clinic of a large teaching institution of St. Louis. The women were well dressed, one giving an address in a well known apartment hotel, the other on a fashionable boulevard; one stated her income was $125 and the other $105 a month. Their word was accepted; the clinic made no investigation, and each was given a card reading "only for patients unable to pay a physician's fee." Admission to the clinic cost them 85 cents apiece, 5 cents covering the cost of the card, 50 cents their registration, and 30 cents, the medicine. This experiment would indicate that the privilege granted to the poor of St. Louis is sometimes abused by persons able to pay.

Maternity Hospital Affiliates with University.—A new St. Louis Maternity Hospital has been erected adjoining Barnes Hospital and the Washington University School of Medicine. It will be occupied about July 1. This hospital is now affiliated with the university, although for the last eighteen years it has been independent. It will still have an independent board of directors, but the medical supervision will be in the hands of the university. The new eight story fireproof building will accommodate 103 mothers and an equal number of infants; sixty of these beds will be for teaching purposes, the remaining forty-three for private patients. There are eight delivery rooms, one operating room, an isolation division of eight beds, a large solarium, research laboratories and departmental offices. One floor is reserved for colored patients who have their own delivery rooms and separate entrance. The maternity division of Barnes Hospital will be transferred to the new maternity hospital, as will the maternity service of the present St. Louis Maternity Hospital. There are accommodations for ten men and two women resident physicians.

NEBRASKA

Governor Signs Basic Science Bill.—The governor approved the basic science bill (S. 61), April 18, and it becomes effective ninety days thereafter. This is the model bill which was prepared by the Bureau of Legal Medicine and Legislation of the American Medical Association. It provides for an examination in anatomy, physiology, chemistry, bacteriology and hygiene as a prerequisite to eligibility for examination for license to practice the healing arts. The examination is to be conducted by a state board of examiners, consisting of five members, who shall be appointed by the department of public welfare.

NEW YORK

Society News.—The Jefferson County Medical Society went on record, March 10, as being strongly opposed to the distribution of contraceptive materials, especially the newer types through local drug stores, and resolved to discourage and to eliminate by every means middlemen from handling "these dangerous products."——Among others, Dr. Robert H. Halsey spoke on "Mitral and Aortic Valves of the Heart in Action," illustrated by moving pictures, at the April 25 meeting of the Medical Society of the County of New York.——Dr. Joseph F. Montague, New York, addressed the Cayuga County Medical Society, Auburn, April 26, on "Nonoperative Treatment of Hemorrhoids."

New York City

Dr. Kirby Accepts Chair at Columbia.—Dr. George H. Kirby, director of the New York State Psychiatric Institute, and professor of clinical medicine in the department of psychiatry at Cornell University Medical College, Ithaca, has been appointed professor of psychiatry at Columbia University, effective July 1. Dr. Kirby sailed for Europe, April 23, to visit neuropsychiatric clinics and hospitals.

Society News.—A symposium on tropical diseases was presented by the New York Academy of Medicine at its stated meeting, May 5; the speakers were Col. Bailey K. Ashford, U. S. Army, "Certain Conditions of the Digestive Tract in Porto Rico and Their Relation to Sprue"; Dr. Claude Lavinder, U. S. Public Health Service, "Brief Review of Tropical Diseases of Interest in New York City," and Dr. Andrew W. Sellards, Boston, "The Question of Immunity and Superinfection in Yaws."

Ophthalmologists' Meeting—Noguchi Reports on Trachoma.—Dr. Hideyo Noguchi, Rockefeller Institute for Medical Research, will present his original work on trachoma before the section of ophthalmology at the New York Academy of Medicine, May 16. His subject will be "Chronic Granular Conjunctivitis in Macacus Rhesus and Chimpanzee, Induced by a Micro-Organism Isolated from Cases of American Indian Trachoma." Dr. Henning Ronne, Copenhagen, will speak on "Squint." The discussions will be carried on by Drs. George E. de Schweinitz, Philadelphia; William H. Wilmer, Baltimore; Frederick Verhoeff, Boston, and E. L. Proctor and Arnold Knapp, New York.

Liquor Licenses Revoked.—The district prohibition administrator recently revoked the liquor licenses of the following for the reasons indicated:

Dr. Arthur D. Campbell, irregular prescriptions.

Dr. Gilman S. Currier, violating section 7 of the National Prohibition Act.

Dr. Harry H. Gormly, sold and disposed of prescriptions to be used in obtaining whisky for beverage purposes. Not actively engaged in the practice of medicine. The prohibition office notes also, "state license revoked."

Dr. John J. Sutton, state license to practice has been revoked. Irregular prescriptions; not actively engaged in the practice of medicine.

Joseph A. Talamo, state license revoked; unlawfully sold and dispensed prescription form 1403.

Data in our files indicate that Talamo is not a graduate of a school of medicine, although at various times he has been a student in three medical schools.

NORTH CAROLINA

State Medical Election.—At the annual meeting of the North Carolina State Medical Association, Durham, April 18-21, Dr. John T. Burrus, High Point, was elected president; Drs. Gideon H. Macon, Warrenton; Robert F. Leinbach, Charlotte, and William R. Griffin, Asheville, vice presidents, and Dr. Lewis B. McBrayer, Southern Pines, secretary-treasurer, reelected. This meeting is said to have been the largest in the history of the society.

Personal.—Dr. Robert D. Jewett, for many years editor of the *North Carolina State Medical Journal* and a practitioner of medicine, has retired from practice.——Dr. Hubert A. Royster, former president of the Medical Society of the State of North Carolina, accepted the invitation to deliver the annual oration before the Louisiana State Medical Society, New Orleans, April 26-28; Dr. Royster's subject was "The Dignity of the Medical Profession."——Dr. Charles L. Minor has returned to Asheville after a six months' tour of European clinics.

Dr. Rankin Resigns from State Board.—At a meeting of the state board of health in conjunction with the annual meeting of the state medical society, April 28, Dr. Watson S. Rankin, Raleigh, resigned as a member of the board, and Dr. Laurence E. McDaniel, Jackson, was elected to fill the vacancy. Dr. Rankin resigned, it is reported, to permit an appointment to the board from the eastern part of the state. Dr. Charles O'H. Laughinghouse, Raleigh, was elected secretary of the board and state health officer for a period of six years, at a salary of $8,000 a year.

PENNSYLVANIA

Ten Year Building Program Proposed.—The legislature has again passed a resolution to amend the state constitution authorizing the issue of $50,000,000 in bonds to finance construction and improvement of institutions for the mentally ill, the delinquent, the epileptic and penal offenders. The resolution, having passed in two successive sessions, will be placed on the ballot in November, 1928, for approval of the voters. The bond issue, sponsored by the Public Charities Association of Pennsylvania, will finance a ten year constructive program for these institutions.

Demonstrations by Heart Association.—The Philadelphia Heart Association will give intensive demonstrations in the diagnosis and treatment of heart disease, May 23-26, in which the physicians of the state are invited to take part. There will be no charge. The program includes a great variety of subjects. There will be laboratory demonstrations at the Philadelphia General Hospital, the Pennsylvania Hospital, the College of Physicians, the Presbyterian Hospital, the University of Pennsylvania and the Jefferson Medical College, and papers and clinics by heart specialists and other prominent physicians. It is the intention of the committee on arrangements, of which Dr. John D. McLean is chairman, that each person in attendance will see at least one heart clinic in operation.

State Health Department News.—The state sanatorium at Mount Alto has installed an amplification system which brings entertainment given in the auditorium and radio programs to the bed patients.——During March more than 29,000 children visited the 410 child health centers operated under the supervision of the state health department, 176 of which are under its direct supervision; there are now eighty-three prenatal clinics, which, during March, showed an attendance of 6,456. During the last thirty day period more than 1,000 children between 6 and 16 years of age were treated at tuberculosis clinics throughout the state.——The second outbreak of trichinosis recently occurred in Weatherley, Carbon County, from eating raw sausage. All the patients were seriously ill and two died.

Liquor Licenses Revoked.—The district prohibition administrator with headquarters in Pittsburgh recently revoked the liquor licenses of the following for the reasons indicated:

Dr. William A. Arnold, Pittsburgh, issued prescriptions to persons who did not solicit nor receive same nor liquor prescribed thereon; used fictitious names; did not give physical examinations; failed to keep true and accurate records in order to deceive the government.

Dr. Joseph C. Edgar, Oakmont, used other than forms 1403 for prescribing liquor without justifiable emergency; sold physician's prescriptions to persons who were not ill and who were using the liquor for beverage purposes; did not make physical examinations; falsified records; lack of good faith.

Dr. Gaetano Ribetti, Pittsburgh, issued prescriptions to persons who did not solicit nor receive same nor whisky thereon; used fictitious names; did not give required physical examinations; violated ten-day period rule; failed to keep true and accurate records.

Dr. Joseph J. Schill, Pittsburgh, sold prescriptions to persons who did not need same in order to derive profit; did not give required physical examination; deliberately falsified records, reports and accounts; bad faith.

Dr. Albert T. Schmidt, Turtle Creek, prescribed liquor on private forms when no emergency existed; issued private prescriptions using names of persons who did not solicit same nor receive same or whisky prescribed thereon; did not give physical examinations; failure to keep true and accurate records.

Dr. James Elmer Croop, Erie, used fictitious names on forms 1403; issued prescription forms using fictitious names in order to divert liquor to beverage purposes and realize unlawful profit; falsified records and accounts; issued prescriptions without giving physical examination to patients; lack of good faith.

Dr. Eugene J. Hamborszky, Farrell, issued prescriptions to persons who did not solicit nor receive same nor the whisky prescribed thereon; used fictitious names on forms 1403; issued prescriptions without giving physical examination; failed to keep and render true and accurate records; i. e., using fictitious names.

Society News.—At a meeting of the Pittsburgh Pediatric Society, April 15, Dr. John D. Stevenson, Beaver, reported a case of lymphosarcoma.——The sixth annual Bedford dinner and lecture was given at the Duquesne Club, Pittsburgh, April 21; Dr. John A. Hagemann spoke on "Idealism in Medicine."——The Roentgen Ray Society of Central Pennsylvania and the Northampton County Medical Society held a joint meeting at Easton, April 22. There was a round table discussion on duodenal ulcers, led by Dr. Byron H. Jackson, Scranton, and another on iodized oil in radiographic examination by Dr. Peter B. Mulligan, Ashland; there were also moving pictures of the normal stomach by

Dr. Lewis G. Cole, New York; papers on "Treatment of Carcinoma of the Cervix by Radiation" by Dr. Viola Zoe A. Johnston, Pittsburgh; "Possible Developmental Defects Following Overradiation of Thymus in Infancy" by Dr. George H. Hess, Uniontown, and "Roentgen-Ray Examination of Gastro-Intestinal Lesions," by Dr. Leon T. LeWald, New York City.—Dr. Charles H. Henninger, Pittsburgh, was elected president of the Allegheny County Medical Society, April 12. Dr. Harry W. Albertson, Scranton, president of the state medical society, and Dr. Arthur C. Morgan, Philadelphia, president-elect of the state society, addressed this annual meeting of the county society on "Some Problems in Medicine" and "The Doctor," respectively.——Dr. Theodore Diller addressed the Pittsburgh Academy of Medicine, May 3, on "Pioneer Medicine in Western Pennsylvania," and Dr. Harry N. Malone on "The Life and Work of Dr. Albert G. Walter."

Philadelphia

Request—Hirschsprung's Disease.—The department of surgical physiology of the University of Pennsylvania School of Medicine, Philadelphia, is making a study of Hirschsprung's disease, megalocolon and dilated sigmoid, with a suggestion for nonoperative treatment. Physicians having charge of such cases are requested to communicate with this department.

Personal.—Dr. and Mrs. Louis P. Reimann celebrated their golden wedding anniversary recently.——Dr. Herman B. Allyn was reelected president of the medical board of the Philadelphia General Hospital, March 21.——Dr. Samuel H. Brown was elected president of the Medical Alumni of the University of Pennsylvania at the annual meeting, February 19.——Dr. George E. de Schweinitz, a past president of the American Medical Association, gave an address at Johns Hopkins University, February 24, on "Important Events in the History and Development of Ophthalmology."——Dr. Pascal Brooke Bland gave the commencement address, April 28, to the Jefferson Hospital Training School for Nurses.

Promotions at Jefferson Medical College.—Dr. Ross V. Patterson, dean of Jefferson Medical College, has been elected to a full professorship in medicine; Dr. Patterson has been the dean since 1916. Dr. Charles E. G. Shannon has been elected professor of ophthalmology to fill the vacancy caused by the death of Dr. William M. Sweet last December. Dr. Shannon has been a member of the staff since 1905. Dr. Frederick J. Kalteyer has been elected professor of medicine; Dr. Kalteyer joined the staff in 1900. Dr. Edward J. G. Beardsley, member of the staff since 1907, has been elected a clinical professor of medicine; Dr. Elmer H. Funk, member of the staff since 1908, has been elected a clinical professor of medicine.

SOUTH CAROLINA

State Medical Election.—At the annual meeting of the South Carolina State Medical Association, April 19, Dr. D. Lesesne Smith, Spartanburg, was elected president; Dr. Waller H. Nardin, Anderson; Dr. William Egleston, Hartsville, and Dr. William R. Barron, Columbia, vice presidents, and Dr. Edgar A. Hines, Seneca, secretary-treasurer, reelected. This will be the eighteenth year that Dr. Hines has served in this office. Dr. Robert E. Abell, Chester, was reelected to the state board of medical examiners from the Fifth District and Dr. Nathaniel B. Heyward, Columbia, was elected to the board from the Seventh District. The next annual meeting of the association will be in Columbia in April, 1928.

SOUTH DAKOTA

Personal.—Dr. Charles S. Lobel has resigned his position at the National Sanatorium, Battle Mountain, and has accepted a position on the staff of a hospital at Dayton, Ohio.

Society News.—Drs. Eugene H. Grove and Nelson K. Hopkins were hosts to the Kingsbury County Medical Society, March 17, at a dinner, following which Dr. Carl A. Feige, Iroquois, was elected president. Dr. August E. Bostrom, DeSmet, state representative, discussed the proceedings of the last legislature before the society.

First State Hospital Convention.—The first state convention of the new South Dakota State Hospital Association was held at Huron, May 2, preceding the meeting of the South Dakota State Medical Association under the presidency of Dr. Francis E. Clough, Lead. Among the speakers were Dr. Malcolm T. MacEachern, Chicago, and Dr. Robert L. Murdy, Aberdeen.

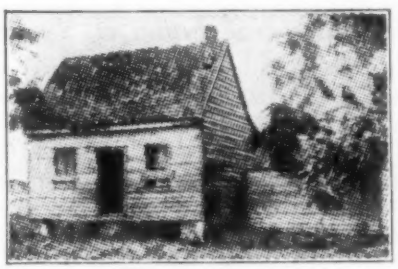
VERMONT

Dr. William B. Mayo Honored.—Residents within a radius of 20 miles of Northfield assembled in the local armory, April 15, for a public reception in honor of Dr. William B. Mayo on his completion of a half century in the practice of medicine. The speakers included the president of Norwich University, of which school Dr. Mayo has been a trustee for forty years; Prof. Charles H. Spooner, A.M., Dartmouth College, Hanover, and Drs. William Wheeler, John H. Judkins, and Frank Lynde.

VIRGINIA

Personal.—Dr. Margaret Nolting, Richmond, has been appointed professor of physiology and hygiene at the Westhampton College, University of Richmond, to succeed Dr. Margaret P. F. Kuyk, who has retired.——Dr. Donald St. C. Campbell has been appointed health officer of Newport News.——Sidney S. Negus, Ph.D., professor of organic chemistry at the University of Richmond, has been appointed to a similar position in the Medical College of Virginia, Richmond.

"Belroi" to Be Restored.—The Walter Reed Memorial Commission has authorized the appointment of chairmen in various sections of the state to raise $2,500 for the restoration of Belroi, the birthplace of Dr. Walter Reed in Gloucester County. The Medical Society of Virginia at its last annual meeting appropriated funds to purchase Belroi, to be presented to the commission, and the deed has now been properly transferred. Major Reed was in charge of the U. S. Army Commission which proved that mosquitoes transmit yellow fever. The army general hospital at Washington, D. C., is named in his honor.



WASHINGTON

Cancer Archives on Cancer Inheritance.—With the aid of Maud Slye, Ph.D., Chicago, the Seattle Academy of Surgery is endeavoring to collect data in that community on cancer inheritance. To this end, the *Cancer Archives* has been established. Physicians are requested to cooperate; they will be given every assistance to record properly their cases of cancer, including a follow-up system supervised by the physician himself or by his authority. Trained pathologists will cooperate in checking the tissue, for which a pathologic slide will be necessary. The cases will be kept strictly confidential in relation to the archives, and the medical society will be informed from time to time of any progress made. Communication can be made with the *Cancer Archives* by telephone, Main 6901, or by letter to the Committee on Cancer Archives, Auditorium Floor, Medical and Dental Building, Seattle.

GENERAL

Alumni Meeting.—The alumni of the Peter Bent Brigham Hospital, Boston, will hold a luncheon, May 19, in Washington, D. C.; further details may be learned from Dr. Henry A. Christian, at the Hotel Mayflower, Washington, after May 15.

Fund for Pharmaceutical Research.—The American Pharmaceutical Association has available about $500, which will be expended after October 1 to encourage research. Investigators desiring financial aid in such work should communicate before July 1 with H. V. Arny, chairman, research committee, 115 West Sixty-Eighth Street, New York, giving a brief record of their past work and outlining the particular line for which a grant is desired.

Embargo on Canadian Milk Modified.—On recommendation of the U. S. Public Health Service, the U. S. Department of Commerce has modified the embargo on milk and cream which it recently established within a radius of 200 miles of Montreal, Canada, on account of a typhoid epidemic. The modification of the embargo permits milk and cream produced in this section of Ontario to be brought into this country, but the embargo remains in force on all the territory in the Province of Quebec included in the original embargo. In a

news item under Canada in this issue, the cause of the epidemic at Montreal is reported to have been a typhoid carrier employed by one of the dairies.

Meeting of Thoracic Surgeons.—The tenth annual meeting of the American Association for Thoracic Surgery will be at the New York Academy of Medicine, Fifth Avenue and One Hundred and Third Street, May 9-11, under the presidency of Dr. Franz J. A. Torek, New York. There will be a symposium on nontuberculous bronchopulmonary suppurative lesions participated in by Drs. Duff S. Allen, St. Louis; Samuel J. Crowe, Baltimore; Howard Lilienthal, New York; Abraham O. Wilensky and John D. Kernan, both of New York. Among other speakers will be Drs. Wyman Wittemore, Boston; Carl Eggers, New York; Otto C. Pickhardt, New York; Ambrose L. Lockwood, Toronto; Edward W. Peterson, New York; Edward W. Archibald, Montreal; William Lerche, St. Paul; James T. Gwathmey, New York; Stuart W. Harrington, Rochester, Minn.; Evarts A. Graham and E. R. Wiese, St. Louis; Willy Meyer, New York; Leon T. LeWald, New York, and Everett E. Watson, Salem, Va.

Academy of Ophthalmology and Oto-Laryngology.—The thirty-second annual meeting of the American Academy of Ophthalmology and Oto-Laryngology will be at Detroit, September 12-16. The program is being constructed in two directions—first, a scientific program of twenty-five papers; second, a postgraduate course of sixty conferences. Any member of the academy who desires to present a paper during the scientific session should submit the title and abstract at once to the secretary of the section in which his paper should appear. Dr. William L. Benedict, Rochester, Minn., is secretary for ophthalmology, and Dr. John L. Myers, Kansas City, Mo., secretary for otolaryngology. The principal symposium on the scientific program will be on focal infection; in addition to this, ten papers will be presented in each of the two sections. General Herbert S. Birkett, Montreal, has accepted an invitation to be the guest of honor. The preliminary announcement of the conferences apparently indicates that fifty-five of the sixty have already been arranged for.

CANADA

Carrier Caused Montreal Typhoid Epidemic.—The inspector general of the provincial bureau of health issued a statement, April 21, it is reported, to the effect that the source of the typhoid epidemic had been shown to be an employee of a local dairy. He was a typhoid carrier, and had access to the milk of this dairy after it was pasteurized. This individual has been isolated and is under treatment.

Only Registered Physicians May Use the Term "Doctor."—Justice Middleton, Toronto, ruled, April 27, it is reported, in a case submitted by Magistrate Jones, that the osteopaths and chiropractors can not use the word "doctor" as an occupational designation relating to the treatment of disease, and that the use of the term by those who are not registered as physicians under the Ontario Medical Act is illegal.

Society News.—Dr. Joseph A. Macfarlane, Toronto, addressed the St. Thomas' Medical Society, St. Thomas, Ontario, February 9, on "Infection of the Hand," illustrated with lantern slides.——Dr. Norman D. Royle, Sydney, Australia, addressed the Vancouver Medical Association, March 5, on his original work in relation to the autonomic nervous system. The meeting was preceded by a dinner attended by 113 members and guests, including Dr. Stanley Argyle, minister of health for Victoria, Australia, who was touring Canada and the United States in the interest of medical education and hospitals.

FOREIGN

German Physicians and Newspapers.—The Berliner Medizinische Gesellschaft, the most prominent local medical society in Germany, has adopted a resolution to the effect that its members will do everything that is possible to prevent "near advertising" by such means as the publication of their pictures in the newspapers.

Emergency Medical Organization in Cape Town.—The council of the Medical Association of South Africa has adopted a scheme for the organization of the medical profession in the event of an outbreak of influenza in Cape Town. Physicians in general practice would not be interfered with in the plan and each one is advised to confine his work to the area in which he generally practices should the emergency arise. The organization provides for (1) an organizing medical secretary; (2) district medical commandants, and (3) emergency medical officers. The city has been divided into wards each to be in charge of a medical commandant selected from the senior general practitioners in each ward. When the commandant considers that the work in his ward has become too great for those ordinarily practicing, he will request the organizing medical secretary to have medical assistants supplied. Emergency medical officers will be recruited from among the specialists, retired physicians and senior medical students. They will be invited to volunteer and be allotted by the organizing medical secretary to wards as required. The details of the plan are to be worked out by the organizing medical secretary, who is responsible for compiling the rosters of emergency medical officers and advising the medical commandants where the various depots should be established in each ward. In the event of an epidemic the organizing medical secretary will have administrative charge of the scheme acting in collaboration with the health officer of the city. Dr. A. W. S. Sichel, 6 Church Square, Cape Town, assumed the duties of organizing medical secretary. The medical commandants of the fourteen wards are also named in the March 12 issue of the *Journal of the Medical Association of South Africa*. The organization is for emergencies only and will be called into being only at such times.

CORRECTION

Sanatorium Accredited for Nurse Training.—The Ring Sanatorium of Arlington, Mass., was not reported by the Massachusetts Department of Civil Service and Registration as accredited for nurse training, and was therefore published as not accredited in the Hospital Number of THE JOURNAL, March 12. The department now informs us that the training school at that sanatorium is known as the Arlington Training School, and as such is fully accredited.

Government Services

Sixty-Five Army Officers Graduated

Sixty-five army medical officers were graduated at the army medical center, Washington, D. C., February 1. Capt. Charles R. Lanaham was awarded the Hoff Medal for general proficiency, and Lieut. William O. French, Jr., was awarded the Sternberg medal. The address of the occasion was delivered by Brig. Gen. Walter D. McCaw.

Changes in Personnel of Veterans' Bureau

The March issue of the U. S. Veterans' Bureau *Medical Bulletin* reports the following changes in personnel:

HOSPITALS

Dr. Victor A. Aimone, appointed medical officer in charge, U. S. Veterans' Hospital, Washington, D. C.
Dr. John B. Bauguss, resigned at U. S. Veterans' Hospital, Gulfport, Miss.
Dr. Carolan S. Cronin, transferred from U. S. Veterans' Hospital, Palo Alto, Calif., to San Francisco, regional office.
Dr. Elda M. Dings, reappointed U. S. Veterans' Hospital, Memphis, Tenn.
Dr. Harry B. Fralic, transferred from U. S. Veterans' Hospital, Lake City, Fla., to U. S. Veterans' Hospital, Fort Snelling, Minn.
Dr. Arthur E. Gill, appointed at U. S. Veterans' Hospital, Memphis, Tenn.
Dr. Edward H. Gibbons, appointed as intern at U. S. Veterans' Hospital, Jefferson Barracks, Mo.
Dr. James A. Kennedy, appointed at U. S. Veterans' Hospital, Tuskegee, Ala.
Dr. Edmund A. Lodge, resigned at U. S. Veterans' Hospital, Outwood, Ky.
Dr. Lorenzo F. Luckie, appointed at U. S. Veterans' Hospital, Muskogee, Okla.
Dr. Waldemar G. Richter, resigned at U. S. Veterans' Hospital, Sheridan, Wyo.
Dr. Frank M. Rogers, transferred from U. S. Veterans' Hospital, Augusta, Ga., to U. S. Veterans' Hospital, Chillicothe, Ohio.
Dr. Albert L. Stebbings, transferred from central office, advisory group on appeals, to Edward Hines, Jr., Hospital, Maywood, Ill.
Dr. John W. Tippie, resigned at Edward Hines, Jr., Hospital, Maywood, Ill.
Dr. William M. Van Patten, transferred from U. S. Veterans' Hospital, Boise, Idaho, to U. S. Veterans' Hospital, Tacoma, Wash.
Dr. Howard V. Von Dahm, transferred from U. S. Veterans' Hospital, Washington, D. C., to U. S. Veterans' Hospital, Lake City, Fla., as medical officer in charge.

REGIONAL OFFICES

Dr. John E. Hewitt, tuberculosis specialist, transferred from Denver, to Indianapolis.
Dr. John W. Hodges, resigned at Birmingham, Ala.
Dr. H. W. Long, neuropsychiatric specialist transferred from Chicago to Pittsburgh.
Dr. Charles J. Trail, neuropsychiatric specialist, resigned at Sioux Falls, S. D.

Foreign Letters

LONDON

(From Our Regular Correspondent)

April 23, 1927.

Lunacy Reform

Dr. George M. Robertson, physician-superintendent of the Royal Edinburgh Hospital, Morningside, and professor of psychiatry in the University of Edinburgh, points out in his annual report that the most important event in the medico-psychologic world last year was the drawing up of the report of the royal commission on lunacy and mental disorder, which is admitted by experts to be a wonderful achievement. Its most striking departure is acknowledgment for the first time that the treatment of mental disorder is essentially a medical question. Strange as it may appear, the existing lunacy laws, particularly those of England, seem to have been devised with the object of obstructing medical relief. They enact that patients applying for treatment voluntarily must be refused admission to psychopathic hospitals. No one can be admitted until his disease has become thoroughly established or his conduct has become a public nuisance. Even then he cannot receive treatment till his application for admission has been dealt with by a legal order, after the manner of the detention of a criminal. One result of these evil methods is that hospitals for the treatment of mental disease have fallen into disrepute. Although especially designed for the treatment of mental disease, and although equipped at great cost with all the resources that science demands, they are the last places to which the public will send patients for treatment. Yet there is no form of hospital in which more devoted or more self-denying work is done—work, however, that receives scant public recognition and is patiently undertaken often under unmerited abuse. The lunacy laws were framed with an intention that was not the outcome of a knowledge of disease or of sympathy with the sick, but of something very foreign to the spirit of healing.

Volunteers for Blood Transfusion

The Middlesex Hospital, wishing to increase its list of donors of blood for transfusion operations so as to reduce the probability of a call on any one of them from once in three months to once in six, invited offers from those willing to give blood to hospital patients. The response has been so generous that this object has been attained, for 235 offers have been received, and of these 110 were found to be satisfactory in the blood test and in other ways. They have been added to the four groups of the list. The ages of those offering ranged, in most cases, from 13 to 73, and of those accepted from 18 to 30. Widely different stations in life were represented, from a man out of work who lamented that he could not also pay his traveling expenses, to a brigadier general who said that his car would bring him to the hospital from his country house in four hours. Two thirds of the would-be donors were women, and the additions from them to the list were in about that proportion. In only two or three cases was any remuneration suggested. A gunner of the Royal Horse Artillery said that if need be he would sacrifice his life in the interests of the hospital, while a market worker desired to do something in return for the kind attention and care given him at the Middlesex in accidents that he had in his youth. A girl who had given five transfusions, but had not been called on since, thought that "perhaps they felt she needed a rest," but she did not; she wanted still to be useful. Another offer was from one who had given 1¼ pints in six minutes, but thought he could give two pints in that time, now that he knew what to do. There were numerous other offers from those who had been useful in this way elsewhere, and one donor said that the gift of 1½ pints had caused him very little inconvenience. The immunity of the blood giver from any considerable disability is remarkable. The Middlesex Hospital had had only one case in which complete recovery to normal strength was delayed by any complication, and that yielded to treatment. The donor of blood is always informed as to the progress of the patient.

John Brownlee, M.D., D.Sc., F.R.F.P.S

Dr. John Brownlee, statistician to the Medical Research Council, has died after a very short illness in his sixtieth year. Educated at the University of Glasgow, he graduated with first-class honors in mathematics and natural philosophy, and also distinguished himself in medical studies. He held several important posts, including that of physician-superintendent of the city of Glasgow fever hospitals, and had acquired a reputation as an authority on all matters connected with infectious diseases. He made important contributions to the statistical study of disease; his memoirs on the epidemiology of tuberculosis and on the periodicity of measles won high praise. His ability for applying mathematics to biologic problems led to his appointment as the first director of the department of statistics of the Medical Research Council. His best known work was on the investigation of the periodicity of influenza. He enunciated the law that normally epidemics of influenza occur at intervals of thirty-three weeks. Experience in many parts of the world has confirmed this rule.

Wireless Medical Consultations at Sea

Dr. Claude Lillingston, editor of the *World's Health* (the organ of the League of Red Cross Societies), in a letter to the *British Medical Journal*, discusses the present unsatisfactory condition of medical help at sea by wireless resulting from the want of codification. There is first the difficulty of the foreign languages—of a Portuguese captain trying to tell a Dutch physician what his mate is suffering from. A standard questionary, which would give the captain hints as to the wording of his first message and international standardization of certain medical phrases, would do much to simplify his task. It is fortunate that the present code of wireless signals is to be revised at a coming international conference in Washington. The medicine chests carried by ships of different nationalities show the same lack of international standardization; also the medicine chests of some countries betray many serious omissions and are far from down to date. The medical manuals of the different countries show an even greater incongruity. Some are fairly complete, others are rather sketchy, while a few are little better than handbills. Clearly, it would facilitate the work of the physician if he could refer, when giving advice by wireless, to chapter and paragraph in an international medical manual, or to a certain number which would be the same for the same subject in every national medical manual. Here, therefore, there is again a clear case for international cooperation. Thanks to Dr. Harald Engelsen of the Norwegian navy, and medical adviser to the Norwegian Red Cross Society, the health and general welfare of the seaman was added in 1924 to the peace-time program of the League of Red Cross Societies. He secured the appointment of a committee of Norwegian experts to devise a model that might serve as a standard international medicine chest. Further, he published a large, freely illustrated medical manual which has already been authorized by the Norwegian government for use on board Norwegian merchant ships. Another step has been the appointment by the League of Red Cross Societies of a standing committee on which certain of the maritime national Red Cross Societies, the League of Nations and the Inter-

national Labor Office are represented. This committee is engaged on the three problems already discussed, and at its next session will examine as to its suitability for international use a skeleton medical manual based on Dr. Engelsen's manual. Dr. Lillingston says it is so complete that there is little doubt as to its suitability to serve as a model for an international work. The same committee will investigate the problems of an international medicine chest and wireless code.

The Healthy English Girl

Health officers of eleven countries who have been studying our methods and completed a three weeks' tour of the principal cities in Great Britain are unanimous in their praise of the physique of English girls. Dr. Jonas Sliupas, the Lithuanian representative, said in a press interview: "Your girls are wonderful. They have attained a standard of physical fitness to be found nowhere else in the world. I have been impressed with their vigor. They are much more energetic than the men, and are always cheerfully smiling. I have not seen a dull-looking girl since I came. I do not consider they are beautiful—not so beautiful as our own girls, for example. Short skirts are the most sensible things that have ever been introduced from a health point of view, and the whole world is now paying English girls a compliment by following their lead. Even in Lithuania our girls wear their skirts just below the knee. If I were a young man instead of an elderly one I would not go back without an English girl for a wife. The physical standard of any nation is based on the general physique of its women, and on its present human stock the British nation must be easily the healthiest in the world.

Health Insurance Misused for Financing of Strikes

At the fourteenth annual conference of Industrial Assurance Approved Societies, Mr. A. C. Thompson, chairman of the Prudential Assurance Company, who was reelected president of the conference, said that the aggregate membership of their societies was over 6,992,000. The total amount paid in benefits during 1926 was more than $46,735,000. Of this, nearly $38,800,000 was spent on sickness and disablement benefit, and slightly less than $4,135,000 on maternity benefit. The claims experience of the approved societies in 1926 exceeded that of 1925 by no less than $11,545,000. The seriousness of the position lay in the fact that the abnormal increase in sickness expenditure coincided almost entirely with the period of the coal strike. It would not be fair, however, to charge the coal strike with the whole of the responsibility for the increase, as for some years there had been a marked increase yearly, and this was apparent in 1926, apart altogether from the time of the industrial trouble. He was forced with reluctance to the conclusion that many members had been provided with medical certificates although they were not, in fact, incapable of work within the meaning of the act. Of the cases referred for examination by the regional medical officers, 40 per cent declared off the funds immediately or failed to attend examination, and of those who did attend 20 per cent were found to be incapable of work. In face of this it was difficult to relieve the panel physician from responsibility for a great deal of the increased expenditure, but during the unfortunate events of last year they appear to have allowed their hearts to overrule their heads. Carried away by their sympathy for those who were sufferers in the industrial dispute, they would seem to have forgotten their duties toward the National Health Insurance Fund. This was designed and introduced to provide insurance against loss of health, and for the prevention and cure of sickness; but if it was allowed to become a fund which might be resorted to when other sources of income had failed, whatever the cause might be, the whole would have to be recast on other lines if its solvency was to be maintained.

PARIS

(From Our Regular Correspondent)

April 6, 1927.

The Incidence of Tuberculosis According to Trades and Occupations

A statistical study on the incidence of tuberculosis according to trades and occupations has just been published by Drs. Paul Vigne, C. Gardère and Jeannin. The personnel that cares for tuberculous patients, namely, physicians, hospital assistants and nurses, is included. In 1926, of 106 hospital externs on duty in Paris, seven were found to have tuberculosis. From 1920 to 1926, among 400 externs there were four deaths from tuberculosis. Professor Letulle had already pointed out that among the members of the religious order of St. Augustine in the Hôpital de la Charité, in the period from 1875 to 1899, of 110 deaths, eighty-two were from tuberculosis. Also the personnel employed in the laundries of Paris and its suburbs is particularly affected. Tuberculosis causes 75 per cent of the deaths of the men and 50 per cent of the deaths among the women. These figures are lower according as the physicians succeed in persuading families of the need of disinfecting the linen of patients before it is called for at the homes by the laundrymen.

In the industries, workmen who cut hard stones (stonecutters, polishers, building wreckers) are much exposed. A stonecutter cannot continue his trade more than thirteen years. A stone polisher rarely attains the age of 36. From 50 to 60 per cent of the cutters of grindstones, who work in an atmosphere filled with silica dust, are tuberculous. The workers in porcelain at Limoges furnish about the same proportion. The dust from old furniture is no less dangerous. The union of the employees at the hall of public sales in Paris is 72 per cent tuberculous. Also the workmen in bakeries have a high tuberculosis morbidity. Of 400,000 bakers in France, Barral estimates that 28,000 are tuberculous. In almost all the large cities, all bread to be offered for sale must be kneaded in a closed vessel. A large number of persons among the policemen are tuberculous though they live in the open air. The explanation is offered that they are exposed to inclement weather and that the police stations are generally in a deplorable hygienic condition. On the contrary, coal miners, in spite of the fact that their lungs contain deposits of coal dust, have a very low percentage of tuberculosis (from 2.50 to 3.29 per thousand), while workmen engaged in the manufacture of plaster-kilns, although they breathe calcareous dust all day, enjoy a veritable immunity to tuberculosis, so that the artificial inhalation of such dust has even been recommended as a systematic treatment in this disease.

The Purification of Drinking Water in Paris

The water supplied to the population of Paris is never *eau naturelle*. Part of it is water from the Seine and the Marne, sterilized by passing through filter-basins. The remainder comes from distant rivers, being collected near their source (the Vanne, the Avre, the Dhuys, the Voulzie, the Loing), and is carried in aqueducts from reservoirs located at elevated points, which give it sufficient pressure to rise to the tops of tall buildings and to operate the elevators. The water for drinking purposes is carried in special pipes. The nonpotable water from the rivers, which is always more or less contaminated, is distributed by other pipes and is used for laundry purposes and bathing, the faucets, for the purpose of distinction, being painted red. The only cases of typhoid of water origin that have been observed of late have been due to an error of workmen who, in making repairs, confused the two pipes and connected them up together. But even the spring water, being subject to contamination, after leav-

ing its place of origin, by infiltrations from adjacent soils, is sterilized by means of sodium hypochlorite. To be sure that the water does not, through misadventure, contain an excess of chlorine, the water thus sterilized is tested in small basins in which live trout are kept. The trout die as soon as the water contains too high a proportion of chlorine and long before the consumer detects a chlorine taste. The Bunau-Varilla method of exposing water to the action of ultraviolet rays is to be introduced. This procedure is called verdunization because the water consumed by the combatants at the seige of Verdun was sterilized in this way.

Researches in Experimental Vaccination

Vaccination against exanthematous typhus has been accomplished by M. C. Nicolle and his co-worker H. Sparow and E. Conseil. Each of two persons received in three series a total of thirty-eight subcutaneous doses of cultivated virus, at first extremely dilute, then of increasing potency. Twenty of the doses had been attenuated by being kept in the icebox. When the subjects had supposedly acquired immunity, they received doses of certain virulence. Unfavorable reactions were not observed, and typhus did not develop. The authors think that this method might be utilized to immunize physicians and nurses in case of an epidemic.

Again, at the Pasteur Institute, M.M. A. Marie and Muttermilch have made progress in experimental vaccination against rabies. By treating with ether the brains of animals that had died of rabies, they dissolved a substance that immunized rabbits by means of three successive inoculations. Rabbits are particularly sensitive to the virus of rabies. Their immunity was so complete that they resisted the inoculation of virus into the brain substance. The cerebrospinal fluid of animals thus treated is capable of neutralizing the virus of rabies in vitro. The experiments are being continued with guinea-pigs, and M. Roux, director of the Pasteur Institute, thinks it will prove possible to vaccinate animals of a higher order and thus finally reach the dog, which will be of great importance for the prophylaxis of the disease.

The Medical Convention at Nancy

The Faculté de médecine de Nancy has adopted the plan of holding each year a medical convention, or *journées médicales* so called, which is in the hands of the professors of the university and is for the benefit of the medical practitioners of the region round about. Their object is to pass in review at each convention some of the questions that science has not fully settled. While these questions have been discussed before the scientific societies, the transactions of which have been published, many practitioners in small towns have not the leisure to keep up with these discussions, which are often contradictory, and to form their own practical conclusions. The papers and addresses presented at the convention by the professors serve to show just what point has been reached by science after critical consideration of the controversies that have arisen in the large medical societies. It is like a session of a postgraduate school, but is limited to a few live topics. The meeting last winter took up the present status of our knowledge concerning cancer. The second convention, just closed, was attended by more than 150 physicians of Lorraine and Luxemburg. Among others, Professor Etienne delivered an address on certain new functional syndromes in medicine. Professor Froelich discussed infantile paralysis, which tends, in the Lorraine region, to assume epidemic proportions. The addresses were accompanied by lantern slides, motion pictures and the presentation of patients. Professor André dealt with determinations of renal function in urologic surgery. Finally, Professor Frühinholz spoke on the treatment of puerperal infection.

BELGIUM

(From Our Regular Correspondent)

Feb. 15, 1927.

Hygiene in the Zinc Industry

M. Biot recently reported at the sixth Congress of Industrial Chemistry the results of the medical inquiry instituted in 1925 in the zinc works. There were 325 workmen examined, of which number ninety-seven, or 29.84 per cent, presented a lead line on the gums and 170, or 52.31 per cent, basophil granulations in the red blood cells. Regarding records below 75 per cent (Tallqvist colorimetric scale) as deficient, it was found that in 20 per cent of the workmen the hemoglobin content of the blood was low. The conclusion is that impregnation with lead is unquestionable and frequent, but the effect on them is not usually sufficient to produce the ordinary symptoms of lead poisoning. Carbon monoxide appears frankly poisonous, but its action does not seem to be extremely marked among the workmen. Efforts are being made to diminish the risks of lead poisoning; extraction by electrolysis diminishes considerably the danger.

The Medical Service in the Kilo-Moto Mines

Dr. Daco, director of the medical service in the Kilo-Moto gold mines (the Belgian Congo), has an article in the *Bruxelles Médical* on the organization of that service. The industrialization of a tropical region modifies considerably the incidence of disease in the black race. About 20,000 workmen are employed in the mines. The medical personnel, the medicines and the dispensaries are supplied by the mine owners. The territorial administrator organizes the system of ferreting out the patients needing treatment and appoints in each chief village a responsible person to look after the transportation of the patients the day of the visit of the physician.

The physician in charge has at his disposal 600 beds distributed over five hospitals, and seven pavilions annexed to twenty-two dispensaries, which provide ambulatory treatment. This organization has been accomplished within three years in the Kilo-Moto mines.

The International Congress of Hygiene and Public Health

As announced previously, the International Congress of Hygiene and Public Health will be held in Ghent, in June, 1927, under the auspices of the Royal Institute of Public Health of London. It will be presided over by the Right Hon. Viscount Burnham. A Belgian committee has been appointed by the central organization in London. There will be five sections as follows: (1) state medicine and municipal hygiene, (2) naval, military, air and tropical diseases, (3) industrial hygiene, (4) pathology, bacteriology and biochemistry, and (5) women and the public health. The general secretary of the congress is Professor Bessemans.

Laboratory of Applied Psychophysiology

A special school offering instruction in psychophysiology is now in operation in Brussels. Persons enrolled as students in some one of the several faculties of law, medicine or polytechnics, or persons holding corresponding diplomas may be admitted as pupils. The courses of instruction include pathology in relation to psychiatric legal medicine, psychology of the child, psychopedagogy, vocational guidance, and industrial physiology and psychology.

A Medical Mutual Aid Society

At the annual meeting of the Fédération médicale belge, Dr. Tricot-Royer brought up the subject of a medical mutual aid society. The principle was voted on for the first time at the session held in 1865. But, every time the question has

come up, the difficulties were so great that a nation-wide system was abandoned. A few isolated attempts were made under the name of "caisse de prévoyance et de secours du corps médical belge." Even a mutual society was founded, "la Mutuelle Médicale," which received subsidies from the state. Then, several local societies were founded at Antwerp, Liége and Namur. At the suggestion of Dr. Tricot-Royer, the Fédération médicale belge decided to place the question of the organization of a medical mutual aid society and the means of supporting it on the agenda of the next general assembly.

ITALY

(From Our Regular Correspondent)

March 22, 1927.

The National Congress of Otoneuro-Ophthalmology

The second congress of the Società italiana di otoneuro-oftalmologia was held in Rome.

Professor Barré presented a study on methods of exploring the vestibular apparatus, which he undertook for the purpose of unifying the technic and likewise the exposition of the subject in the textbooks. In his opinion, there is no such thing as a true cerebellar vertigo, nor a nystagmus of pure cerebellar origin. He passed in review the clinical tests commonly used to detect disturbances of the static muscular tonus, namely, the "extended arms test," Bárány's pointing test, and examination of nystagmus, and suggested certain refinements and modifications in their application on the basis of his experience. It is necessary, he said, to apply separately the three ordinary tests in examining the functioning of the labyrinth, since each test has a significant bearing in determining the final result. In all three tests the results are secured through stimulation of the labyrinth, and, although directed toward different parts of that organ, they all have a peculiar significance.

Bárány explained his method of recording results in the pointing test—the degree of deviation and the character of the orientation, and called attention to the necessity of a uniform system of recording that will allow comparison of the results obtained by various authors. It will thus be easier to study the many details of the method and to correct various errors in the literature.

Ferreri reported the results of a clinical study that he conducted on patients who presented vertigo and disturbances of equilibrium without any evident suppuration of the middle ear. In such cases an accurate functional examination of the vestibule is a great aid, especially in subjects who are suffering from traumatism of the head, and it is of great importance also in medicolegal determinations.

Torrigiani described one of his cases in which examination of the cochlea and the vestibule established the site (left hemisphere) of a cerebellar cyst that the neurologic examination had not sufficed to locate with certainty, which finding was confirmed at operation.

Bilancioni discussed the behavior of the labyrinth in twenty-four subjects affected with hypertrophy of the thyroid. On rotation of the subject in a sitting position, he observed almost always a prolongation of the nystagmus, and sometimes falling, pallor or congestion of the face, and ocular symptoms. In all instances there was, in addition, an increase of pulse frequency and irregularity of respiration.

Torrini described a case of Parkinson's disease (the first in the literature) in which the tremor was represented by a palatopharyngolaryngeal myoclonus.

Beck expounded a new operative technic that he had employed in four cases of abscess of the temporal lobe, which is of aid in preventing unshapely scars of the temporal muscle and adhesions with the dura mater. In two cases thus treated he has secured favorable results.

Citelli discussed certain new experimental and clinical facts that demonstrate the influence of diseases of the rhinopharynx and the sphenoidal sinuses on the pituitary gland.

Pisani and Gozzano dealt with the Maki Nakata and the Kijoshi Ara reactions on the cerebrospinal fluid, emphasizing the constancy of the difference, in the positive cases, between the metasyphilitic and the meningitic types of reaction.

Numerous further communications were presented on subjects pertaining to otoneuro-ophthalmology and ophthalmo-otology.

The Death of Antonio Cardarelli

Prof. Antonio Cardarelli has died at Naples at the age of 96. Born March 29, 1831, Cardarelli studied medicine at Naples, where he was graduated at the age of 22. In 1889, he accepted the chair of special medical pathology at the University of Naples, and from that post passed to that of clinical medicine, which he held until 1924, or twenty years after he reached the age of retirement. In all, he exercised the duties of an instructor for about seventy years. Among his more important scientific works are "Aneurysms of the Aorta," "The Resonance of Thoracic Percussion Auscultated from the Buccal Cavity in Retrosternal Aortic Aneurysms," "Nervous and Functional Diseases of the Heart," "Diseases of the Liver," "Bigeminal Pulse," "Alternating Pulse," "The Rarely Permanent Pulse," "Leukemia and Pseudoleukemia," "Pick's Disease," and "Muscular Atrophy." Together with Rummo, he studied, in his earlier years, the latent energy and the functional power of the heart effecting an increase in peripheral resistance. In 1879, he described the "Cardarelli symptom," consisting in a transverse pulsation of the laryngotracheal tube in aneurysms and in dilatation of the arch of the aorta.

Offering of Prizes

The Lega nazionale contro il pericolo venereo has established two competitive prizes amounting to 4,000 liras each for the best contributions on "The Cultivation of the Spirochete" (a critical review and experimental research) and "Treatment of Gonorrhea in Man and in Woman: Survival and Latency of the Gonococcus."

Statistical Data on Tuberculosis

The Federazione italiana delle opere antitubercolari has presented to Premier Mussolini, at his request, a memorial containing proposals pertaining to an improved organization of the crusade against tuberculosis in Italy. According to statistics collected by the federation, tuberculosis causes the deaths of from fifty to fifty-five thousand persons each year in this country. There was a slight decrease in the mortality during the first years after the war, for the reason that the sufferings of the war led to the early death of many sick persons; but since 1923 the previous mortality has again obtained. The pulmonary type is increasing, while there is a diminution of mortality from the surgical forms, owing to the recent development of sanatoriums, marine hospitals, colonies, and the like. The region most affected is Sardinia, with 2,090 deaths per million inhabitants. The section of the country least affected is Umbria, with 1,352 deaths per million. The number of patients is not exactly known, but it is estimated that there are 150,000 patients seriously ill and about half a million altogether, including the mild cases. Of the 200,000 or more recruits enrolled each year in the army, from two to three per thousand are found to be affected with pulmonary tuberculosis.

PRAGUE

(From Our Regular Correspondent)

April 1, 1927.

Better Division of Public Health Activities

The Czechoslovak delegation at the Sixth Assembly of the League of Nations, held in September, 1926, presented a request for an international study of the relationship of social insurance schemes to preventive medicine. As a result of this request, investigations were conducted in Czechoslovakia, Germany, Poland, Austria, Hungary and Denmark. In Prague, the preventive activities of various insurance bodies are of different character in different localities and are carried out only so long and so far as surplus funds are available to the insurance bodies. Nevertheless the postwar cut in state and local budgets for public health has pushed to the forefront the subsidies which the insurance bodies have devoted to the interest of public health. The chief preventive activities of the insurance bodies are concerned with the child. Pregnant insured female workers are examined in prenatal clinics. Assistance is given to the mother in childbirth either through the midwife or in a maternity hospital. Financial benefits for different periods of time before and after childbirth allow the mother to abstain from work and devote herself entirely to the child. Consultations for mothers and premiums paid to those who nurse their children have lowered infant mortality. Many preschool children of the insured have been given the advantage of a stay in summer colonies. Another group of preventive measures, carried out under the auspices of the insurance bodies, is concerned with communicable diseases. Examination and protection of those who have come in contact with cases of tuberculosis and venereal disease and isolation and treatment of infectious cases are being carried on. Follow-up work of cases discharged from hospitals and sanatoriums has been attempted by some insurance bodies. Public health education of the insured has been practiced by them to some extent. These activities have been conducted to a considerable degree independently of official public health authorities, so that duplication has occurred, while on the other hand some fields remained untouched. Therefore the national council of social hygiene in Czechoslovakia, which is a federation of the most prominent national social and health private agencies, has undertaken the task of bringing all the representatives around one table for discussion of the division of the public health work.

Health Demonstrations

The idea of public health demonstrations as it has been worked out in the United States is gaining ground in Czechoslovakia owing largely to the support of these demonstrations through the International Health Board of the Rockefeller Foundation. The difficulties which these demonstrations have to overcome are chiefly twofold: The general tendency in the country has been to establish reforms on a national rather than on a local scale; furthermore, the general trend in the administration of public affairs tends rather toward the reduction than the extension of public services. Expenditures from public funds for public health generally surpass the amounts expended in America. Accordingly, the economic structure will not stand an increase in public expenditures for health. Attention, therefore, should be concentrated on the investigation of ways and means for making the public health service more efficient and economical under the present budget. This rearrangement of public services presupposes a demonstration of a method that would be cheaper and more efficient than the one now in use. Recently the support of the International Health Board of the Rockefeller Foundation has been secured for a demonstration to be carried out in a district of Moravia and another one in Slovakia. A third demonstration area is being prepared in one section of the city of Prague.

Death of Heveroch

The long list of recent deaths among medical men in Czechoslovakia has been augmented lately by the name of Prof. Antonin Heveroch of Prague. He was born in 1869 in Northern Bohemia, graduated in medicine at the Czech medical faculty of Prague in 1894, and in 1899 became lecturer in neurology and psychiatry at the medical faculty of Prague, with which he was connected until his death. Professor Heveroch's contributions to medical science are contained in 119 papers. His chief contribution is concerned with the study of aphasia. For a long time his lectures were optional for the medical students, but they were the most frequented ones at the medical faculty. Professor Heveroch's merits were recognized by most of the scientific bodies in the country. He was also corresponding member of scientific bodies, such as the Society of Russian Psychiatrists and the French Society of Neurologists.

Responsibility for an Airplane Accident

Recently a passenger in a transport airplane suddenly attacked the pilot and nearly caused a disaster. In order to fix the liability for damages, the patient was brought for examination in order to determine whether the fit of amentia in the passenger had been caused by the airplane trip. The history of the patient revealed that he was normal before the incident and that there was no hereditary mental disease in his family. He had been overworking for a number of days before he undertook the trip in the airplane. The fact that he had never traveled in an airplane before caused him considerable apprehension. The influence of lowered oxygen pressure could be ruled out, as the airplane was at an altitude of only 1,400 meters. It appeared that the airplane company could not be made responsible for the accident, for the patient apparently was in an unstable mental condition before he even decided to undertake the trip.

BERLIN

(From Our Regular Correspondent)

April 9, 1927.

The Suppression of Quackery

In Germany, every one is at liberty to practice medicine. The only restriction is that no one may call himself *Arzt*, or physician, who has not been accorded that right by the government on the basis of his studies and examinations. Liberty of practice was granted in 1869 at the request of the physicians themselves. Up to that year, Germany prohibited other than authorized physicians from practicing medicine. The reasons for the repeal of the existing law were that legislation against quackery availed nothing, and that the German people, by reason of its education, could be trusted to engage qualified physicians and not quacks. That such confidence was misplaced is shown by the fact that the number of persons making a regular living from quackery has continued to increase. In Prussia, to be sure, irregular practitioners are required to register with the health commissioner, but all do not comply with this demand and there are many more quacks, or irregular practitioners, than have been officially registered. However, according to the official statistics of Prussia, there were, in 1923, 5,000; in 1924, 5,600, and, in 1925, 6,000 such irregular practitioners, as compared with 26,000 regular practicing physicians (1925). In 1923, there were 17.1 irregular to 100 regular physicians, and, in 1925, the percentage had risen to 23.4. In Saxony the percentage is even higher. In Chemnitz there

were almost as many quacks registered as regular practitioners. In Berlin, there were, in 1926, around 1,300 quacks as against 4,500 physicians. The principal forms of quackery are magnetotherapy, "sympathy," herb treatments, isopathy, "complex-homeopathy," "electro-homeopathy," biochemistry, "complex-biochemistry," eye diagnosis, nail diagnosis, chiromancy, prosopodiagnosis, the sidereal pendulum, occultism, Christian science, and the immense field of so-called naturotherapy. How much deceit is associated with all these methods is shown by the many lawsuits in which quacks are prosecuted for fraud, induced abortion, and bodily injuries and fatalities due to ignorance and neglect.

But the height of inconsistency is reached when a charlatan who has received a sentence for misdemeanor, after paying the penalty for the crime, is allowed to take up again his former practice. Physicians, therefore, are constantly appealing to the government either to abolish liberty of practice or to limit it. About twenty years ago, a bill was introduced into the reichstag with that object in view, but the bill did not go through. One cause for its failure was the amalgamation of the prohibition against quackery with provisions destined to regulate the manufacture and sale of "patent medicines," as the definition of a *"geheimmittel,"* or secret remedy, encountered difficulties from the standpoint of the chemical industry. Many representatives of the people were opposed to abolition of the liberty of medical practice partly because of their personal convictions and partly by reason of influence brought to bear by their constituents. The opposition was particularly strong among the supporters of the social-democratic party, in which even a portion of the medical adherents, by reason of their utopian views, were opposed to any limitation of freedom. Also, among the other parties, there were many supporters of quackery.

Of late, the law pertaining to the control of venereal diseases has opened up a hopeful breach in the heretofore unassailable liberty of medical practice. According to the new law, only licensed physicians may treat patients with venereal disease.

A few weeks ago, in the Prussian provincial health council, physicians, representatives in the reichstag and representatives from the leagues of social insurance societies discussed this question. The following statement of beliefs was accepted by the assembly present: 1. Quackery injures to an alarming extent the public health and deprives the people of their sustenance. 2. It is the duty of the federal government to protect the general public against such injuries. 3. The existing regulations do not give adequate protection. 4. There is need of a legal provision reading as follows: Any person who, not being a licensed physician, shall, except in an emergency, give another therapeutic care as in the exercise of a profession shall be subject to a penalty, etc. An investigation is in order to determine whether it is feasible to allow any person other than a licensed physician to give therapeutic care.

Marriages

PETER EUGENE HERMANSON, Ivanhoe, Minn., to Miss Ethel C. Pedersen of Tyler, April 23.

JAMES FITZGERALD BATTLE to Miss Leora Dolores Garriott, both of Seattle, April 20.

HARRY SCHROER, Cincinnati, to Miss Jane Elizabeth King of Moline, Ill., April 9.

BERNARD MANN to Mrs. Eleanor H. Hartz, both of Philadelphia, February 23.

GEORGE ALAN GLENN to Miss Marie Kathryn Starr, both of Denver, April 5.

WALTER H. RIETZ to Miss Marie Scheel, both of Evansville, Ind., recently.

Deaths

Henry Koplik ✠ New York; Medical Department of Columbia College, New York, 1881; member of the American Pediatric Society and the Association of American Physicians; consulting pediatrician to the Hebrew Orphan Asylum, Hospital for Deformities, Mount Sinai Hospital and the Jewish Maternity Hospital; discoverer of the early diagnostic sign in measles known as Koplik spots; established the first milk depot for infants in the United States; member of the permanent committee of the Congress of Child Welfare; author of "Diseases of Infancy and Childhood" and numerous monographs on the diseases of infancy and childhood; honored in this country and abroad by various medical societies; aged 68; died at his home, April 30.

David Hough Dolley ✠ St. Louis; Johns Hopkins University Medical Department, Baltimore, 1902; since 1922 professor and director of the department of pathology, St. Louis University School of Medicine; formerly professor of pathology, University of Missouri School of Medicine, Columbia, Mo., and the University of North Carolina School of Medicine, Chapel Hill, N. C.; member of the American Association of Anatomists and the American Association of Pathologists and Bacteriologists; pathologist to the Alexian Brothers' Hospital, and St. Mary's group of hospitals; aged 48; died, April 11, at El Paso, Texas, of pulmonary tuberculosis.

James Edwin Thompson ✠ Galveston, Texas; M.R.C.S., England, 1886; University of London, 1887; F.R.C.S., England, 1889; professor of surgery, University of Texas Department of Medicine, Galveston; member of the American Surgical Association and Southern Surgical Association; since 1891 on the staff of the John Sealy Hospital; aged 63; died, April 8, of endocarditis and influenza.

Soren Sorenson, Racine, Wis.; Jefferson Medical College of Philadelphia, 1893; formerly clinical assistant in surgery, Milwaukee Medical College; member of the Wisconsin State Medical Association; at one time on the staffs of the State Hospital, Mendota and St. Mary's Hospital, Racine; aged 66; died, March 21, of acute dilatation of the heart following pneumonia.

Orville Titus Manley ✠ Warren, Ohio; Cleveland College of Physicians and Surgeons, Medical Department Ohio Wesleyan University, 1900; formerly demonstrator of experimental medicine, Western Reserve University School of Medicine, Cleveland; on the staff of the Warren City Hospital; aged 52; died, April 11, of heart disease and anemia.

Charles Edwin Prior ✠ Malden, Mass.; Medical School of Harvard University, Boston, 1882; chairman and formerly secretary of the Board of Registration in Medicine of Massachusetts; at one time member and chairman of the board of health; on the staff of the Malden Hospital; aged 71; died, April 20, of myocarditis.

Milton A. Barndt, Los Angeles; Chicago Homeopathic Medical College, 1893; formerly associate professor of otolaryngology, College of Medical Evangelists; for eight years member and at one time president of the Wisconsin State Board of Medical Examiners; aged 67; died, April 10, of cerebral hemorrhage.

Herman M. Ludwig ✠ Chicago; Bennett Medical College, Chicago, 1884; for many years on the staff of the Chicago Municipal Tuberculosis Sanitarium and formerly on the staff of the Frances Willard Hospital; aged 76; died, March 13, of myocarditis and nephritis.

Robert J. Murray, Sewickley, Pa.; Jefferson Medical College of Philadelphia, 1867; member of the Medical Society of the State of Pennsylvania; president of the First National Bank of Sewickley; aged 81; died, April 5, of angina pectoris.

George R. Rau ✠ Tuscaloosa, Ala.; University of the South Medical Department, Sewanee, 1894; past president of the Tuscaloosa County Medical Society; on the staff of the Druid City Hospital; aged 53; died, February 18, of brain tumor.

Harry Greenwell Fridge, Hattiesburg, Miss.; Medical Department of the Tulane University of Louisiana, New Orleans, 1904; served in France during the World War; aged 47; was killed, March 31, in an automobile accident.

Lupher A. Powell, Superior, Neb.; University of Pennsylvania School of Medicine, Philadelphia, 1884; formerly on the staff of the Kansas State Soldiers' Home, Fort Dodge, Kan.; aged 66; died, April 3, of cerebral hemorrhage.

Henry Austin Mann, Memphis, Tenn.; University of Tennessee College of Medicine, Memphis, 1912; member of the Tennessee State Medical Association; aged 38; died, March 23, at the Oakville (Tenn.) Sanitarium.

Joseph Ambrose McPhillips, New York; Albany Medical College, 1912; member of the Medical Society of the State of New York; aged 44; died, April 11, at the Park West Hospital, of pneumonia and heart disease.

George Oliver Hammersley, Caruthersville, Mo.; Memphis Hospital Medical College, 1900; member of the Missouri State Medical Association; served during the World War; aged 58; died, March 22, of heart disease.

William R. Powel, Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1887; aged 63; died, April 15, at the Montgomery County Hospital, Norristown, of injuries received when gored by a bull.

John Patrick Mullin ✠ Iowa City, Iowa; State University of Iowa College of Medicine, 1893; formerly demonstrator of anatomy at his alma mater; aged 61; on the staff of the Mercy Hospital, where he died, April 6.

Isadore Emanuel Freed ✠ Bethlehem, Pa.; University of Pittsburgh School of Medicine, Pittsburgh, 1909; aged 39; died, March 22, at the University of Pennsylvania Hospital, Philadelphia, of cardiorenal disease.

Edward Ira Pope, Chicago; Washington University Medical School, St. Louis, 1881; on the staff of the American Hospital; aged 74; died, March 31, at the Presbyterian Hospital, of pulmonary embolism.

John F. Arnold, Limestone, Tenn.; University of Tennessee College of Medicine, Memphis, 1889; member of the Tennessee State Medical Association; aged 67; died, March 30, at a sanatorium in Greeneville.

Harry McQuown ✠ Redrock, Okla.; Fort Worth School of Medicine, Medical Department of Texas Christian University, 1901; physician in the Indian Service; aged 52; was shot and killed, March 23.

Henry Clay Eckstein ✠ medical inspector, commander, U. S. Navy, retired, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1862; Civil War veteran; aged 90; died, April 11.

Lucien Lupien, Westbrook, Maine; University of Montreal Medical Faculty, Montreal, Que., Canada, 1893; member of the Maine Medical Association; aged 59; died, February 22, as the result of a fall.

George Willis Malone, Sanderville, Ga.; University of Louisville (Ky.) School of Medicine, 1894; member of the Medical Association of Georgia; aged 58; died, April 4, at a hospital in Atlanta.

Frank L. Henry, Cleveland; Western Reserve University School of Medicine, Cleveland, 1888; aged 66; died, April 8, following the amputation of his leg, necessitated by an infection.

J. K. Simmons, Nace, Va.; Medical College of Virginia, Richmond, 1869; Confederate veteran; member of the Medical Society of Virginia; aged 86; died, April 9, of heart disease.

Edward Hubbard Quinn, New York; Medical Department of Columbia College, New York, 1886; member of the Medical Society of the State of New York; aged 65; died, April 6.

Benjamin E. Bitler, Potts Grove, Pa.; Louisville Medical College, 1889; member of the Medical Society of the State of Pennsylvania; aged 64; was found dead in bed, March 27.

James Mitchell Stewart, Paterson, N. J.; Jefferson Medical College, 1880; member of the Medical Society of New Jersey; formerly county coroner; aged 75; died, March 21.

N. B. Harris, Red Rock, Texas; University of Tennessee College of Medicine, Memphis, 1895; member of the State Medical Association of Texas; aged 69; died, March 15.

Frank Warble Lambden, Chicago; Hahnemann Medical College and Hospital, Chicago, 1895; aged 69; died, April 12, of a skull fracture received in an automobile accident.

William C. Moody, Bentonville, Ark.; Medical Department University of Louisiana, New Orleans, 1870; Confederate veteran; aged 89; died, April 5, of senility.

Louis Berlin, Brooklyn; Long Island College Hospital, Brooklyn, 1911; served in France during the World War; aged 39; died, April 19, at the Montefiore Hospital.

Ellen Partridge, Chicago; Northwestern University Woman's Medical School, Chicago, 1874; aged 80; died, April 10, of cerebral hemorrhage and lobar pneumonia.

Julian Caswell Cavagna, Cincinnati; Miami Medical College, Cincinnati, 1894; also a dentist; aged 54; died, April 10, of dilatation of the heart and acute gastritis.

Donald Alexander McLean, Stanton, Mich.; University of Michigan Medical School, Ann Arbor, 1867; aged 82; died, April 2, at Traverse City, of arteriosclerosis.

Casper Smith Peeler ✠ Gloucester City, N. J.; University of Maryland School of Medicine, Baltimore, 1917; aged 35; died, in April, at a hospital in Orlando, Fla.

William Hardin Ragland, Cookeville, Tenn. (licensed, Tennessee, 1889); Confederate veteran; aged 84; died, April 2, at the home of his son in Murfreesboro.

Martin S. Reid ✠ Coeymans, N. Y.; Albany Medical College, 1893; health officer of Coeymans; aged 57; died in April, of a self-inflicted bullet wound.

Pascal M. Dowd, Oswego, N. Y.; Medical Department of the University of the City of New York, 1877; aged 81; died, March 27, of myocarditis and cystitis.

Leon Sadowski ✠ Pittsburgh; Detroit College of Medicine and Surgery, 1891; aged 58; died, April 12, at the Western Pennsylvania Hospital, of pneumonia.

Henderson E. Watts, Holly Pond, Ala.; Atlanta (Ga.) College of Physicians and Surgeons, 1902; aged 58; died, April 1, at a hospital in Birmingham.

Samuel Scott Myers ✠ Durango, Colo.; University Medical College of Kansas City, Mo., 1898; aged 55; died, April 12, at Denver, following an operation.

Arthur E. Brooks, New York; New York Homeopathic Medical College and Hospital, New York, 1918; aged 38; died, April 12, of lobar pneumonia.

Josephine M. Wetmore Rust, Iowa City; Northwestern University Woman's Medical School, Chicago, 1891; aged 57; died recently, of heart disease.

Herman Bloch, New York; University of Königsberg, Germany, 1888; aged 65; died in April, at the Harlem Hospital of cerebral hemorrhage.

Amos H. Culp ✠ Beggs, Okla.; Louisville (Ky.) Medical College, 1888; physician in the Indian Service; aged 66; died, March 29, of heart disease.

Josiah Ernest Scott, Altoona, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1890; aged 70; died, April 2, at Sebring, Fla.

John R. Charlton, Antioch, Tenn.; University of Nashville Medical Department, 1878; formerly county health officer; aged 74; died, April 2.

Henry Joseph Schenk, Portland, Ore.; St. Louis University School of Medicine, 1908; served during the World War; aged 42; died, April 7.

Arnold S. Griffitt, Indianapolis; University of Louisville (Ky.) School of Medicine, 1870; aged 86; died, April 8, of cardiovascular disease.

Lem S. Barney ✠ Constantine, Mich.; Baltimore University School of Medicine, 1898; aged 59; died, March 27, of cerebral hemorrhage.

William Hanford Allee, Ridgefield, Conn.; Medical Department of Columbia College, New York, 1899; aged 54; died suddenly, April 21.

David R. Stoner ✠ Ellis, Kan.; University Medical College of Kansas City, Mo., 1905; aged 46; died suddenly, April 17, of heart disease.

Amos L. Lennard, Chicago (licensed, Illinois, 1887); aged 90; died recently, of pleurisy, cerebral hemorrhage and arteriosclerosis.

John W. Poole, Brooklyn; Bellevue Hospital Medical College, New York, 1890; aged 60; died, April 10, of cerebral hemorrhage.

Clara Sauter, St. Louis; Homeopathic Medical College of Missouri, St. Louis, 1880; aged 84; died, March 17, of chronic cholecystitis.

Percy Ruttan Wood ✠ Indianapolis; University of Michigan Medical School, Ann Arbor, 1891; aged 64; died, March 6.

Tomm Pickles, Buncombe, Ill. (licensed, Illinois, 1889); aged 74; died, April 6, of cerebral hemorrhage.

Dr. Joseph M. Grace Is Not Dead.—The report of the death of Dr. Joseph M. Grace of Omaha, in THE JOURNAL, April 23, which was taken from the *Nebraska State Medical Journal*, was an error. Dr. Grace has since informed THE JOURNAL that he is alive and in good health.

Correspondence

PHENOLPHTHALEIN AND AGAROL

To the Editor:—It is surprising how few in the medical profession, as well as among the laity, know of the high phenolphthalein content of one of the emulsions of liquid petrolatum marketed under the name of "Agarol." The impression gained from the advertising matter and the circulars supplied by the manufacturers of the preparation is that it represents merely a mixture of mineral oil and agar. The label on the bottle exhibits the words "mineral oil" and "agar agar" in large type, and the word "phenolphthalein" in minute letters. Little wonder that the latter ingredient is generally overlooked. Physicians advising its use, as well as patients using it, do not realize that they are being weaned away from the use of pills or tablets containing phenolphthalein as their active ingredient, to the use of this liquid, which contains phenolphthalein in considerable dosage.

The composition of the preparation was reported among several others by the Chemical Laboratory of the American Medical Association in THE JOURNAL, May 30, 1925; but unless specifically sought for, the information is easily overlooked. I have come across numerous cases of colitis, which were aggravated or perhaps produced by the prolonged use of this preparation, often on the advice of a physician who did not suspect the presence of such an active ingredient as phenolphthalein to the extent of 6 grains to each ounce, or 3 grains to the average dose.

The use, or rather the misuse, of this compound is so general that the profession ought to be appraised in a forcible way of its true composition.

ZACHARY SAGAL, M.D., New York.

CONTROL OF TYPHOID CARRIERS

To the Editor:—Recent newspaper reports indicate that the number of cases of typhoid in the Montreal epidemic will exceed 2,000, which means that there will be 200 deaths, or possibly more.

My purpose in this communication is to call attention to another prospective result of importance—namely, the chronic carriers, certain to be produced—and to suggest that the Montreal epidemic has brought, along with its tragedy, an opportunity for research which may, in the end, save more lives than will be lost in the epidemic.

Although the key to present and future control of typhoid in most communities is the healthy carrier, it must be admitted that our knowledge of carriers, and the technic of their detection, is in a deplorably uncertain state. The largest health departments in this country have customarily found about 2 per cent of carriers among their recovered patients. Some authors, such as Gay (Typhoid Fever, New York, 1918, p. 123), place their estimates at nearer 5 per cent, but Wodtke (*Arb. a. d. Reichsgsndhtsamte* **55**:304, 1925) in reviewing the results of the intensive German campaigns as late as 1925, gives his estimate at 1 per cent, stating that in view of his experience the ratios usually published were too high.

But now come Leach, Dehler, and Havens (*Am. J. Pub. Health* **16**:391 [April] 1926) of the Alabama State Board of Health, with the report that with improved technic they find close to 10 per cent of carriers among persons who have recovered from typhoid from six months to two years previously. Their original series showed sixteen carriers in 156 persons examined, but subsequent unpublished results show about the same proportions in more than double the former experience, so that the mathematical "probable error" is ±1 per cent, indicating that their remarkable results have statistical significance. Similarly, Welch and the same group (THE JOURNAL, Oct. 3, 1925, p. 1036) found 3.6 per cent of carriers of the typhoid bacillus in a routine survey of healthy dairy workers in Alabama, these results also being much higher than any previously reported.

The Alabama workers attribute their extraordinary results to such improvements in procedure as (*a*) a minimum of two or three specimens to each individual, (*b*) urinary as well as fecal specimens, (*c*) prompt enrichment of specimen in brilliant green bile, and (*d*) preliminary incubation at room temperature.

Now it is clearly of the highest importance that these results should be verified, for if the Alabama results are of general application, then it follows that the older technic has been permitting the great mass of the current carrier crop to return to their former habits and occupations, including food handling, without special precautions, to continue to menace the population during another possible forty or fifty years of life span.

The Montreal emergency affords an opportunity of investigating this problem on an adequate scale, while at the same time insuring the future safety of that city; for certainly it is of importance to Montreal that all these new-formed carriers be known, whether the number be twenty or 200, in order that the community may be properly safeguarded.

It is now nearly twenty years since a thoroughgoing investigation of the typhoid problem has been made. The last study of this kind was that conducted by the Typhoid Fever Commission of Washington, D. C. Since that time, the complexion of the problem has greatly changed. Mass infection by water and milk are still factors, but in most communities present control and final eradication is a question of finding the carrier, whether of recent or remote origin.

The underlying problems fall into the fields of the laboratory, of epidemiology and of statistics. A research commission organized along these lines could, no doubt, develop results that would be of the highest practical value, not only to Montreal but also to the entire world.

Will Montreal grasp the opportunity for service that lies before her?

A. W. HEDRICH, Baltimore.
Department of Biometry and Statistics,
School of Hygiene and Public Health,
the Johns Hopkins University.

"NOSTRUMS AND QUACKERY"

To the Editor:—Will you permit an ignorant layman to make a suggestion? I want to suggest that every reputable physician in the United States have and keep constantly on the table in his waiting room Nostrums and Quackery. It will, no doubt, occur to you that one impatiently waiting for his turn will pick up and read a book, paper or magazine while thus marking time that he would not notice under different conditions. It seems to me that a book of this kind and subject would be really refreshing to a patient waiting his turn and that he would be in a peculiarly fitting state of mind to give attention to the practical, common-sense information about the medical frauds that lie in wait for the unsuspecting and ignorant. I believe that if the physicians of the country would adopt this plan, . . . patients would be pleasantly—not insistently—introduced to the scenes behind the curtains of many "patent medicine" concerns that prey and fatten on ignorance and credulity. Many do not really stop to think that the best doctor in the world could not intelligently treat their ailments without a history of the case, the knowledge, nature and extent of other possible or real ailments, condition of the blood, temperature and of the vital and other organs generally, and that, therefore, to expect a mere manufacturer of a medicine by some single formula,

which they are not willing for their victims to know, to cure a patient whom they have never seen and never will see is simply the limit of stupid folly. Am I not right?

W. C. RODGERS, Nashville, Ark.

"THE KAHN TEST FOR SYPHILIS"

To the Editor:—The communication of Dr. A. V. Greaves (THE JOURNAL, March 19) deserves discussion. Like all interested in the study of syphilis, I have followed the developments of recent years affecting methods for its serologic investigation, both the evolution of refinements in Wassermann technic and the evolution of the Kahn flocculation test. I agree with Dr. Greaves that "in scientific medicine we must at all cost to our feelings follow our conclusions as far as they will take us without allowing sentiment to stand in the way." This is a fortunate phraseology, but I cannot avoid the impression that many of the recent communications are concerned, not with the applicability of the Kahn test to the serologic study of syphilis or to its diagnosis, but rather with a sometimes more than tepid discussion as to whether or not all other means of study shall be immediately discarded in its favor. There seems a tendency, as in the article of Houghton, Hunter and Cajigas (THE JOURNAL, Dec. 4, 1926, p. 1898) and, perhaps, in Dr. Greaves' communication, to wax impatient with the measured reluctance of many to follow the footsteps of the few.

Any serologist will admit that it is not alone the disease but also the patient's reaction to the disease which influences the serology of syphilis. The greater his experience, the more settled will be his conviction that there is little hope of ever developing an infallible serologic test for evidence of this disease.

One can no longer speak of "a Wassermann test" without specifying the method used. Granting, however, a reliable method in competent hands, and granting also a due meed of reliability and delicacy for the Kahn test, there is still the undisputed fact that either test—no matter how skilfully applied—may give a false negative reaction in the presence of syphilis.

The reasons for this are as much inherent in the disease and the reaction to the disease as in the methods used for its serologic study, and at times explicable, at others not. No matter what test is used, it can never be regarded as automatic and infallible or as not requiring interpretation.

Much labor and paper and ink were expended before it was generally granted by clinicians that syphilis could—and did—give a positive Wassermann test, especially with cholesterinized antigens, in the absence of other clinically demonstrable evidence. The serologists' burden now is to inveigh against a common clinical tendency to utilize serologic reactions as almost the sole means for the study of syphilis, and to accept them at their face value rather than merely as one phase of the clinical study of the individual case.

Dr. Greaves points out that, as the Wassermann test may give a false negative reaction, a diagnostic error is introduced by using it alone; but, in spite of the fact admitted by all workers, including Hopkins and Brunet, whom he quotes, that the same is true of the Kahn test, he does not form such a conclusion regarding this procedure.

A far more lamentable error, in my opinion, to the regard either procedure as anything but an adjuvant to, and part of, a thorough, general, clinical study.

The conclusions of Hopkins and Brunet did not appear as clear cut, absolute or definite as stated by Dr. Greaves, who ignores two paragraphs of, to say the least, some little significnace. I quote them below (italics mine):

Most workers consider the Kahn test a dependable procedure, *but the majority believe that the Wassermann test should be used in conjunction with it.*

And, from their conclusions:

6. The main disadvantage of the Kahn test is its failure in a few cases showing a definitely positive Wassermann reaction. [And from the body of their paper, p. 312:] Of all our correspondents who expressed an opinion as to the value of the Kahn reaction, *none advised its replacing the Wassermann test on the basis of our present knowledge.*

The real question at issue is not concerned with the exaltation of the Wassermann or the Kahn test at the expense of the other, or the precipitate casting forth of either into exterior darkness, but are they of equal or complemental value and in what way are the interests of the patient best conserved?

It cannot be granted that time, labor and expense are paramount considerations in the selections of methods.

With access to the same literature, and on the basis of personal experience with both tests, I cannot agree with Dr. Greaves that "laboratories . . . must choose between the two tests." I am forced to conclude, rather, that serologists are forced to include both tests in their reports and that the interests of the patient are best safeguarded by using both the Wassermann and the Kahn test coincidently in the serologic study of syphilis. Of the necessity for their use and interpretation by skilled personnel, nothing need be said here. If that be treason—!

ROBERT A. KILDUFFE, M.D., Atlantic City, N. J.
Director of Laboratories, Atlantic City Hospital.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SYNERGISTIC ANALGESIA IN OBSTETRICS

To the Editor:—Are the best obstetricians endorsing and using with satisfaction the so-called synergistic analgesia in obstetrics of Gwathmey and others? Please give technic of its use. What are its advantages, if any, over nitrous oxide? Please omit my name.

M.D., Colorado.

ANSWER.—The Gwathmey synergistic analgesia is now being used, either in the original form or in modified form in various institutions. The method is not complicated but does not lend itself readily to short description because individualization is required. A letter addressed to Dr. J. T. Gwathmey, New York Lying-In Hospital, New York City, will bring reprints and further information.

TREATMENT OF GONOCOCCUS INFECTION IN WOMEN

To the Editor:—Will you kindly give your opinion regarding the treatment of chronic gonococcus infection in women? Please omit my name.

M.D., Costa Rica.

ANSWER.—The first requisite in treating chronic gonorrheal infection in women is the elimination of the sources of permanent reinfection. Impure cohabitation must be avoided, infected Bartholin glands excised, and suppurating periurethral crypts opened and obliterated with the actual cautery. The chronic urethritis yields readily to systematic dilation and the injection of some astringent solution. Vaginitis, if still existent, will heal as soon as the urethritis and the infection of the cervical and uterine mucosa have subsided. The two latter involvements represent the crux of the whole problem.

In gonorrheal processes of any duration, the gonococci are not only present in the surface mucosa but also colonize in the glands sunk into the submucous layers and even migrate to the uterine musculature. These facts explain the failure of all methods aiming at the destruction of the mucosa either by the application of strongly caustic solutions or the actual cautery or the scalding of the mucosa with live steam. Either this destruction does not reach the gonococci in their deep locations or, if the destruction extends to such a depth, the subsequent sloughing will produce undesirable aftereffects, such as partial or complete obliteration of the cervical

canal and the uterine cavity. Therefore the therapeutic efforts should be directed as in any other gonorrheal infections toward the "changing of the soil." This is accomplished by local applications and general administrations.

For the production of an artificial edema with the subsequent forced shedding of the epithelium mildly irritating solutions, such as 1 per cent solution of strong silver protein, are placed within the cervix and the uterine cavity. This is best done by introducing swabs soaked in the fluid into the cervical and uterine canal. Previous to this application, the mucosa is cleansed by the introduction of a saturated solution of sodium bicarbonate. These treatments are applied daily. In administering these intra-uterine applications, certain precautions must be taken. The swabs must not be so voluminous as to necessitate force for their introduction, and all the manipulations must be executed with some deftness. In some instances the insertion of a swab necessitates the fixation of the portio with a fine tenaculum. But this tenaculum must not be used for pulling down the cervix and uterus. Forcing down these organs leads to a stretching of the uterine moorings and compression of the lymphatics. The release may lead to an aspiration of the infectious materials stored up in the mucosa and the underlying structures.

The local applications are followed by the insertion into the vagina of a tampon, which may be soaked in a solution consisting of equal parts of glycerin and sulphonated bitumen. The following morning the tampon is removed and a cleansing douche with some indifferent fluid is used. Then the local applications are renewed.

As general procedures, three methods are available: the arrangement for the best possible hygienic conditions, the heating of the pelvic organs, instrumental in producing an active hyperemia, and the injection of heterogenous proteins. A bland diet with exclusion of all alcoholic beverages and strict supervision of the bowel functions is essential.

The heating of the pelvic organs is best accomplished by medical diathermy. The inert electrode is placed on the abdomen and a cup shaped electrode is introduced into the vagina and located back of the portio. The introduction of electrodes into the cervix and uterus always involves the danger of complications such as perimetritis and salpingitis. It is also unnecessary because all the desirable heating of the intrapelvic organs may be achieved by the method just described. The current is increased until the patient reports a distinct sensation of warmth. The perception of pronounced heat calls for a reduction of the current. The idea of killing the gonococci within the tissues by high degrees of heat is based on erroneous premises. The bladder and the rectum should be emptied previous to the diathermic treatments. These treatments each time should extend over a period of an hour and should precede the local applications.

The intramuscular injection of foreign proteins acts as a stimulant to the defensive and absorptive powers of the vasculoreticular system. According to the degree of reaction desired, either milk or casein emulsions as obtainable in the market are used. These injections may be repeated after the local and general reaction has subsided.

For evidence of cure, specimens should be collected immediately before or after the menstrual period or during the time of reaction following the injection of a foreign protein. If culture tests are employed, the material for the inoculation has to be taken under the same conditions.

The treatment of chronic gonorrhea calls for systematic and assiduous efforts, and as a rule has to be extended over a long period.

STERILITY AND ULTRAVIOLET RAYS

To the Editor:—This communication has reference to ultraviolet energy as delivered by quartz mercury vapor lamps. From some source unknown there has been circulated among the laity in Milwaukee that the quartz lamp produces sterility in boy babies when administered to them in tonic doses, such as might be used for the prevention or cure of rickets. Is this true? Please use initials only.

C. C. R., Wisconsin.

ANSWER.—Those who believe that irradiation of male infants with the radiant energy from a quartz mercury arc produces sterility probably confuse the rays commonly called ultraviolet rays with roentgen rays.

Ultraviolet means "beyond the violet," and according to this definition the ultraviolet part of the spectrum includes all wave lengths from 0 to about 4,000 angstrom units, the limit of the visible part of the spectrum. In this zone of the spectrum lie the Millikan rays, the gamma rays from radium, the roentgen rays, and those rays which are commonly known as ultraviolet rays, as well as other rays which have not yet been thoroughly studied. The roentgen rays lie in the region from 1 to 0.1 angstrom units. The shortest ray from a quartz mercury vapor lamp is 1,850 angstrom units.

The biologic effects of the longest roentgen rays and the shortest rays from a mercury arc lamp are not the same. Roentgen rays can produce sterility, either temporary or permanent, but there is absolutely no scientific evidence that the radiations from a quartz mercury arc have this effect.

TOMB TREATMENT FOR CHOLERA

To the Editor:—In reading an abstract from the *British Medical Journal* for January 15, I found reference to the "Tomb essential oil treatment of cholera." Will you please outline that treatment for me. Please omit my name.

M.D., Indiana.

ANSWER.—The Tomb treatment of cholera by means of essential oils was thus described in THE JOURNAL, Sept. 18, 1926, p. 976: The mixture of essential oils recommended by Tomb for the treatment of cholera contains 5 minims (0.03 cc.) each of the oils of anise, cajaput and juniper, 15 minims (1 cc.) of aromatic sulphuric acid, and 30 minims (2 cc.) of spirit of ether. The dose is 1 drachm (4 cc.) every half hour, or one-half drachm (2 cc.) every quarter hour in water until 1 ounce (30 cc.) has been given, and thereafter 1 drachm every hour until complete recovery has taken place.

The treatment was fully discussed by J. W. Tomb in the *Journal of Tropical Medicine* (**29**:210 [July 15] 1926) and the *Lancet* (**2**:721 [Oct. 2] 1926) and by A. Cannon in the *China Medical Journal* (**40**:1210 [Dec.] 1926).

FUNCTION OF THE LENS IN ACCOMMODATION

To the Editor:—Can you supply me with any evidence proving that the crystalline lens plays a purely passive part during accommodation? Thomas Young seems to have thought otherwise. If Tscherning's theory of accommodation is incorrect, the following statement must also be incorrect: viz., that in lenses taken from hypermetropic eyes the lens margin shows unusually pronounced serrations or crenations at the points of insertion of the zonular fibers (Terrien). As we know that the hypermetrope is constantly exerting the ciliary muscle in accommodation, it follows (if this statement is correct) that the zonule must be tightened during accommodation. This is indeed the only point on which Tscherning seems to score; but there are many observations to the contrary effect, especially the visible tightening of the zonular fibers under atropine. Under Helmholtz's theory, myopes whose ciliary muscle would tend if anything to exert a negative accommodation, when gazing at a distant point, might rather be expected to exhibit this crenation more conspicuously.

REGINALD A. YELD, M.D., Edgewood, B. C.

ANSWER.—There is no positive evidence that the lens assumes only a passive rôle in accommodation; on the contrary, nearly all the evidence is that the lens is the active agent in accommodation. There are four types of theories in which variations in the radii of curvature of the surfaces of the lens are denied as of import in the mechanism of accommodation: (1) theories that deny not only the necessity but also the existence of any change of the optical system of the eye; (2) theories that consider the contraction of the pupil as sufficient to account for accommodation in near vision; (3) theories that involve a change in the curvature of the cornea, and (4) theories that accommodation is produced by a shifting of the postion of the lens. These are considered briefly and bibliographically in the English translation of Helmholtz's Physiological Optics, volume 1, page 159. Terrien (Sémiologie oculaire, Le cristallin, 1926, page 10) says: The crenations of the periphery of the lens *"seemed to us* to be more accentuated in hypermetropes than in emmetropes or myopes." The crenations consist of elevations and depressions of the equator of the lens, corresponding in number to the number of ciliary processes. The lens elevations lie opposite the valleys of the ciliary body that are between the processes and from the depths of which arise the zonule fibers. In the average human eye, accommodation is never suspended entirely, and equally seldom is accommodation exerted to the maximum. Consequently, the zonule fibers are under more or less continuous tension. As the distance between the base of a ciliary valley and the apex of a lens elevation is less than the distance between the base of the same ciliary valley and the base of the adjoining lens depression, it stands to reason that there is greater chance for slack in the longer fibers than in the shorter; hence the lens crenations. This idea is in perfect harmony with the Helmholtz theory of accommodation and still explains the anatomic crenations observed by Terrien.

INDUSTRIAL POISONING WITH BENZYL CHLORIDE AND BENZOIC ACID

To the Editor:—1. Can you give me any information as to the effects of the fumes of benzyl chloride, mixed with 33 per cent peroxide and caustic soda, as used in the manufacture of bleaching powder for bleaching flour? On what tissues do they act chiefly, and what are the resultant pathologic changes? 2. Also, how do benzoic acid crystals, floating in the atmosphere, when inhaled over a period of time, affect one? Should a person working under such conditions who complains at times of smarting eyes, lacrimation, headaches and bloody mucus when clearing the throat at times be kept away from such an occupation entirely?

HAROLD F. BROWN, M.D., Buffalo.

ANSWER.—1. Benzoyl chloride, rather than benzyl chloride, is commonly employed in flour bleaching. In combination with hydrogen peroxide and sodium hydroxide, benzoyl chloride forms benzoyl peroxide. The details of this process are discussed in U. S. Patent Records number 1539701. If, in fact, benzyl chloride is employed, a number of chemical reactions are possible:

(*a*) The benzyl chloride hydrolizes to benzyl alcohol and hydrochloric acid. Benzyl alcohol acts similarly to benzyl benzoate. Large doses cause catharsis, diuresis and cardiac fibrillation. Locally, benzyl alcohol acts as an irritant to mucous membranes.

(*b*) Benzyl alcohol may be oxidized by the hydrogen peroxide and the sodium hydroxide to benzaldehyde, which may further be oxidized to benzoic acid. The action and toxicity of this substance is comparable with that of the salicylates.

(*c*) The sodium peroxide formed from the combination of the peroxide and caustic soda may hydrolize and lead to the formation of hydrogen peroxide and later liberate oxygen.

2. The presence of benzoic acid crystals in the air will cause a local inflammation of mucous membranes, particularly the eyes. The extent to which benzoic acid exerts a toxic action after absorption is still controversial, dating back to the inception of the pure food and drug laws. Under the conditions mentioned by our correspondent, severe harm is not to be anticipated.

LUPUS ERYTHEMATOSUS

To the Editor:—Please inform me of the latest treatment in lupus erythematosus.

ARTHUR SCULLION, M.D., New York.

ANSWER.—The only recent addition to the therapeutic agents employed in the treatment of lupus erythematosus has been the use of gold compounds. Schamberg and Wright advocate the gold and sodium thiosulphate compound, using much smaller doses than are advocated by Møllgaard (*Arch. Dermat. & Syph.* **15**:119 [Feb.] 1927). During recent years considerable attention has been given to the rôle of focal infections in this condition, and Barber, Sutton and others have reported favorable results from the use of autogenous vaccines. Other observers have felt that the use of vaccines of nonspecific type are of value because of the foreign protein reaction produced. The chief reliance is still placed in local treatment, a variety of agents being available, the choice depending largely on the type of lesion to be treated.

STIMULATION OF GRANULATION TISSUE

To the Editor:—Given an open wound in which the skin has been scraped off with other layers down to the muscles, and the condition of the patient is not such as to promise good results with skin grafting or an undermining of the tissues and doing a skin sliding operation to be retained as near a closure as possible by sutures, please give me an efficient formula that will stimulate granulation tissue from the edges, as well as method of dressings. I have heard that tincture of ferric chloride in glycerin is a good dressing. Is it? I am using paraffin gauze. A clean, healthy, granulation surface maintains by cauterization of unhealthy tissue, over which is placed sterile dressings of either boric acid solution or physiologic sodium chloride solution. As this wound must granulate from the edges and is approximately 5 inches across, I should like it to heal as soon as possible.

A. H. STAPLES, M.D., Oakland, Calif.

ANSWER.—In the healing of large wounds the chief difficulty is not in the stimulation of granulation tissue but in preventing its excessive overgrowth, which mechanically prevents the growing over of epithelium. This exuberant granulation tissue may be cut away with a sharp knife or be cauterized. One should protect the delicate epithelial margin instead of applying antiseptics or other medication. A most satisfactory treatment of a healthy granulating wound is to cover it completely with narrow half inch wide strips of zinc oxide adhesive plaster. The strips should overlap slightly and be pulled rather tight, extending over on the skin for about one inch. It is usually necessary to change the adhesive plaster only about every three or four days, when there will be found a rather thick secretion beneath it. Drugs should not be used. A gauze dressing over the adhesive plater will absorb any excess of secretion and should be changed daily.

This method, advocated by Charles A. Parker in THE JOURNAL, July 3, 1915, p. 16, tends to prevent exuberant granulations and favors epithelization.

"LIQUID ARVON" DERMATITIS

To the Editor:—Will you kindly let me have the formula of Arvon, a hair tonic preparation, made by the R. L. Watkins Company of Cleveland, Ohio? I recently have had a case of severe dermatitis of scalp and face following the use of this preparation.

FRANK H. MCGREGOR, M.D., Mangum, Okla.

To the Editor:—A patient of mine contracted a severe dermatitis venenata from the use of a dandruff remover called Liquid Arvon, and manufactured by R. L. Watkins Company, Cleveland, Ohio. Will you be so kind and let me know the ingredients of the above patent remedy?

DAVID BLOOM, M.D., New York.

ANSWER.—Some years ago the Connecticut Agricultural Experiment Station published a report of an analysis of Liquid Arvon, put out by the R. L. Watkins Company, Cleveland. The preparation was described as a brown solution with a green fluorescence, of undetermined odor, possibly rose geranium. It was found to contain 4.84 per cent of alcohol by volume, 1.49 per cent of glycerin, and 0.42 per cent potassium carbonate, with salicylic acid present and probably resorcin. The Connecticut chemists summed up the results of their analysis with the statement: "This is an extremely dilute alcohol-glycerin solution containing salicylic acid, potassium carbonate and possibly resorcin."

PROPHYLAXIS OF SCARLET FEVER

To the Editor:—I am medical examiner and inspector of the public schools of Webster Groves, a suburb of St. Louis, with a population of about 12,000. We are having a good many cases of mild scarlet fever. The patient is quarantined by our local health department for a period of four weeks or until through peeling. In the schools we have a rule that contacts may attend school if they live away from the quarantined home, while susceptible contacts must also stay out for a week before going back to school. This is the same rule that is enforced in St. Louis. Our local health commissioner, who also practices medicine, tries to insist that we permit his patients who are contacts to attend school immediately from quarantined houses, provided only they have had a prophylactic dose of scarlet fever antitoxin. Do you consider the prophylactic dose of antitoxin sufficient protection to the other pupils attending school? Are we justified in standing by our rules and not making exceptions because of these single doses of antitoxin?

IRENE M. BLANCHARD, M.D., Webster Groves, Mo.

ANSWER.—A prophylactic dose of antitoxin will not afford protection to other pupils, because the pupil who receives the prophylactic dose may be a carrier of scarlet fever streptococci even if he does not develop scarlet fever. If a careful bacteriologic examination of the throats of contacts should show that they are practically free from hemolytic, that is, scarlet fever, streptococci, it might be safe to allow them to attend school. But it would not be justifiable to make any exceptions in the case of contacts who simply receive a prophylactic dose of antitoxin.

ERUPTION FOLLOWING PHENOBARBITAL (LUMINAL)

To the Editor:—We have a patient who has taken 3 grains of luminal for the last eight years. She is having a peculiar breaking out of the dorsum of the hands and the angles of the lips and also with that a very sore tongue. We would appreciate very much any information that you may have as to whether the luminal could be causing this difficulty.

——, California.

ANSWER.—Report of a case of luminal (phenobarbital) poisoning, with reference to the literature, was published in THE JOURNAL, April 22, 1922, p. 1199; skin rashes similar to those described are reported. In THE JOURNAL, Feb. 7, 1925, p. 434, there is an article on barbital (veronal) poisoning. Since luminal is also one of the barbituric acid derivatives and is reported to have toxic effects similar to those of barbital, this article has a bearing. Here is mentioned the occasional occurrence of a rash, especially in those patients poisoned through the cumulative effect of the drug. Treatment is directed to the rapid elimination of the drug.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

AMERICAN BOARD FOR OPHTHALMIC EXAMINATIONS: Washington, D. C., May 17. Sec., Dr. William H. Wilder, 122 So. Michigan Blvd. Chicago.

ARKANSAS: Regular Board, Little Rock, May 10-11. Sec., Dr. J. W. Walker, Fayetteville. Homeopathic Board: Little Rock, May 10. Sec., Dr. Allison A. Pringle, Eureka Springs.

CALIFORNIA: Los Angeles, May 16-19, June 27-30. Sec., Dr. Charles B. Pinkham, 908 Forum Bldg., Sacramento.

CONNECTICUT: State Board of Healing Arts, New Haven, June 4. Prerequisite to examination. Sec., Dr. Edwin C. M. Hall, 82 Grand Avenue, New Haven.

DELAWARE: Wilmington, June 21-23. State Society and Homeopathic. Pres., Dr. H. W. Briggs, 1026 Jackson St., Wilmington.

FLORIDA: Tampa, June 13-14. Sec., Dr. Wm. M. Rowlett, Box 603, Tampa.

GEORGIA: Atlanta and Augusta, June 8-10. Sec., Dr. J. W. Palmer, Ailey.

ILLINOIS: Chicago, June 28-30. Supt. of Regis., Mr. V. C. Michels, Springfield.

INDIANA: Indianapolis, June 21-23. Sec., Dr. E. M. Shanklin, 421 State House, Indianapolis.

IOWA: Iowa City, June 7-9. Director of Exams. and Licensure, Mr. H. W. Grefe, Des Moines.

KANSAS: Topeka, June 21. Sec., Dr. A. S. Ross, Sabetha.

KENTUCKY: Louisville, June 21-23. Sec., Dr. A. T. McCormack, 532 W. Main Street, Louisville.

MARYLAND: Regular, Baltimore, June 7-10. Sec., Dr. Henry M. Fitzhugh, 1211 Cathedral St., Baltimore. Homeo. Baltimore, June 14. Sec., Dr. J. S. Garrison, 517 Old Orchard Rd., Ten Hills, Baltimore.

MICHIGAN: Ann Arbor, June 14-16 Detroit, June 20-22. Sec., Dr. Guy L. Connor, 707 Stroh Bldg., Detroit.

MINNESOTA: Minneapolis, June 21-23. Sec., Dr. A. E. Comstock, 636 Lowry Building, St. Paul.

MISSISSIPPI: Jackson, June 21-22. Sec., Dr. Felix J. Underwood, Jackson.

NATIONAL BOARD OF MEDICAL EXAMINERS: Part I, June 15-17. Applications should be made by May 15. Sec., Dr. John S. Rodman, 1600 Walnut Street, Philadelphia.

NEBRASKA: Omaha, June 7-9. Sec., Dr. Lincoln Frost, State House, Lincoln.

NEW JERSEY: Trenton, June 14-15. Sec., Dr. Charles B. Kelley, 28 West State Street, Trenton.

NEW YORK: Albany, Buffalo, New York and Syracuse, June 27-30. Chief, Professional Examinations, Mr. Herbert J. Hamilton, State Education Bldg., Albany.

NORTH CAROLINA: Raleigh, June 21. Sec., Dr. John W. MacConnell, Davidson.

OHIO: Columbus, June 7-11. Sec., Dr. H. M. Platter, Hartman Hotel Bldg., Columbus.

SOUTH CAROLINA: Columbia, June 28. Sec., Dr. A. Earle Boozer, 505 Saluda Ave., Columbia.

TENNESSEE: Memphis, Nashville and Knoxville, June 17-18. Sec., Dr. A. B. DeLoach, 733, Medical Arts Bldg., Memphis.

TEXAS: Austin, June 21-23. Sec., Dr. T. J. Crowe, 918 Mercantile Bank Bldg., Dallas.

VERMONT: Underhill, June 22-24. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 15-18. Sec., Dr. J. W. Preston, Box 444, Richmond.

WISCONSIN: Milwaukee, June 28-30. Sec., Dr. Robert E. Flynn, LaCrosse.

WYOMING: Cheyenne, June 1-2. Sec., Dr. G. M. Anderson, Cheyenne.

Alabama January Examination

Dr. Samuel W. Welch, secretary of the Board of Medical Examiners of Alabama, reports the examination held, Jan. 24, 1927, at which 9 candidates were examined, all of whom passed. The following colleges were represented:

PASSED	Year Grad.	Number Passed
College		
Birmingham Medical College	(1914)	1
Howard University School of Medicine	(1926)	1
Atlanta Medical College	(1914)	1
Washington University School of Medicine	(1924)	1
University of Pennsylvania School of Medicine	(1926)	1
Columbia University College of Phys. and Surgs	(1923)	1
Dalhousie University Faculty of Medicine	(1925) 2, (1926)	1

ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
College		
Tulane Univ. of Louisiana School of Medicine	(1908)	U. S. Navy

North Dakota January Examination

Dr. G. M. Williamson, secretary of the North Dakota Board of Medical Examiners, reports the oral and written examination held at Grand Forks, Jan. 4, 1927. The examination covered 13 subjects and included 100 questions. An average of 75 per cent was required to pass. Of the 8 candidates examined, 7 passed and 1 failed. Three candidates were licensed by reciprocity. The following colleges were represented:

PASSED	Year Grad.	Per Cent
College		
Northwestern University Medical School	(1926)	84
University of Minnesota Medical School	(1926)	82.8
Washington University School of Medicine	(1925)	81
University of Pennsylvania School of Medicine	(1925)	*
University of Manitoba Faculty of Medicine	(1925)	81
University of Toronto Faculty of Medicine	(1922) 77, (1923)	80.4

FAILED	Year Grad.	Per Cent
College		
Bennett College of Eclectic Medicine and Surgery	(1905)	39.5

LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
College		
Chicago College of Medicine and Surgery	(1915)	Wisconsin
State University of Iowa College of Medicine	(1923)	Iowa
University of Nebraska College of Medicine	(1923)	Nebraska

* No grade given.

Book Notices

THE SIGNIFICANCE OF THE PHYSICAL CONSTITUTION IN MENTAL DISEASE. By F. I. Wertheimer, Associate in Psychiatry, Henry Phipps Psychiatric Clinic, Johns Hopkins Hospital, and Florence E. Heaketh, Charlton Fellow in Medicine, Johns Hopkins University. Cloth. Price, $2.50. Pp. 76, with illustrations. Baltimore: Williams & Wilkins Company, 1926.

This volume is the tenth in the series of medicine monographs issued by the Williams and Wilkins press. In his preface Dr. Lewellys F. Barker welcomes the contribution as one of the first American essays on the importance of the human individual aside from his disease. The book provides an excellent review of various studies on the subject of body types in addition to furnishing a statement of original observations by the authors, including anthropologic measurements. The essay includes also a critique of Kretschmer's views and conclusions. Unfortunately, the authors propose their own nomenclature as a substitute for much of Kretschmer's. This is likely to complicate the field still further. Unquestionably, much medical research in the future will deal with the relationship of body structure to mental and physical disorders. This monograph will aid the general reader in securing the fundamental facts and theories thus far proposed.

THE SPECIALTIES IN GENERAL PRACTICE. Compiled by Francis W. Palfrey, M.D., Instructor in Medicine at Harvard University. Cloth. Price, $6.50. Pp. 748. Philadelphia: W. B. Saunders Company, 1927.

An unusual volume which should be particularly useful to the general practitioner is this collaboration of faculty members of the Medical School of Harvard University. The book is planned to provide the general practitioner or even the specialist with a reference to the more frequent conditions observed in medical specialties. The editor of the book has taken as his share of the task the provision of a point of view which is essentially that of the general practitioner. A study of the contents of the volume reveals information in outline such as formerly constituted the little handbooks on the specialties in medicine that provided a modicum of information on many topics. The considerations are marked by an evenness of presentation and handling that indicates good editorial supervision. There is also an avoidance of duplication, which adds to the compactness of the work. In every sense of the word, this is a practical book for the practicing physician.

APHASIA AND KINDRED DISORDERS OF SPEECH. By Henry Head, M.D., L.L.D., F.R.S., Consulting Physician to the London Hospital. In 2 volumes. Cloth. Price, $20. Pp. 979. New York: Macmillan Company, 1926.

These two volumes are important to any man of science, medical or otherwise. In the historical review Head shows the slow progress of man hampered by so-called knowledge, the preconceptions of the authorities of their time and the immediate past. He reviews Hughlings Jackson's advanced views, showing the influence they have had on progress in understanding of the relation of the action of the brain to thinking. He then sets forth with comprehensive clarity his views on aphasia, the relation of the use of sym-

bols to thinking and expressive conduct. The second volume contains the reports of the clinical cases, preceded by an introduction in which the reader is oriented by digests of case reports toward (1) grave disorders of speech, (2) specific forms of aphasia, i. e., verbal, syntactical, nominal and semantic, and (3) lesions met in these cases of speech disorders. There is a complete general index and an index of clinical reports.

L'HERPÈS ET LE ZONA: "ECTODERMOSES NEUROTROPES": Étude étiologique et pathogénique. Par. C. Levaditi, de l'Institut Pasteur. Paper. Price, $1.28. Pp. 388, with 90 illustrations. Paris: Masson & Cie, 1926.

This contains the results of further studies by Levaditi along the lines laid down in his previous book "Ectodermoses neurotropes: Poliomyélite, Encéphalite, Herpès," reviewed in THE JOURNAL, April 21, 1923. The present book deals mainly with simple herpes and herpes zoster, but in the final chapter the etiologic relationship between simple herpes and epidemic encephalitis is taken up for renewed discussion. Much new and original experimental work is related, and the large and difficult literature is thoroughly sifted. The abundant and uniformly excellent illustrations add greatly to the pleasure of the reader.

GENIUS. SOME REVALUATIONS. By Arthur C. Jacobson. Cloth. Price, $2.50. Pp. 160. New York: Greenberg, 1926.

It is a notion that genius germinates in defective types and that the respectable elements of society do not give birth to artists in science, literature or art. To sustain this thesis, Dr. Jacobson presents chapters on alcohol, tuberculosis and similar topics in their relationship to genius, together with some definitions and analyses of the things that constitute genius. The volume is interesting but not scientific. The evidence is hardly strong enough to impress, and an analysis of the data reveals that it is chosen with the idea of proving a case rather than in an attempt to establish the truth.

CLINICAL METHODS: A Guide to the Practical Study of Medicine. By Robert Hutchison, M.D., F.R.C.P., Physician to the London Hospital, and Harry Rainy, M.D., F.R.C.P., F.R.S.E. Eighth edition. Cloth. Price, $5 net. Pp. 688, with 167 illustrations. New York: Paul B. Hoeber, 1927.

Dr. Hutchison, with the collaboration of others, has revised this compendium of clinical methods, omitting several methods now obsolete and adding sections on the fractional test meal, van den Bergh's test, urea and sugar in the blood, and the urea concentration test. The section on cardiographic methods has been rewritten with the help of Dr. John Parkinson.

MOTHER AND UNBORN CHILD. A Little Book of Information and Advice for the Prospective Mother. By Samuel Raynor Meaker, Associate Professor of Gynæcology, Boston University School of Medicine. Cloth. Price, $2.50. Pp. 209, with 22 illustrations. Baltimore: Williams & Wilkins Company, 1927.

A recent survey indicates that more than 100 different books on prenatal care and the care of the baby were published during the last five years. The contribution by Dr. Meaker is simple, reliable and conservative, and may be heartily recommended for the purpose for which it was prepared.

ENGLISH-SPANISH MEDICAL DICTIONARY. (Diccionario Médico Inglés-Español). By (Lcdo.) A. A. Moll, A.M., Editor Spanish Edition, Journal American Medical Association. Cloth. Price, $1.50. Pp. 214. Chicago: American Medical Association, 1926.

This lexicon brings to a close the series of Spanish-English medical handbooks and dictionaries published by the American Medical Association. Their purpose has been twofold: helping to make American medical literature better known abroad and furthering in this country a closer acquaintance with the achievements of Spanish speaking confrères. The three previous volumes of the series, "Medical Spanish," "El Inglés para el Médico" and "Spanish-English Medical Dictionary," were all accorded a flattering reception and are now in their second or third printing. The "English-Spanish Medical Dictionary" is even a trifle larger than the others and contains therefore more useful material. The pronunciation of each word is given in both languages. Obviously composite terms have as a rule been omitted, thus allowing more space for real live words. An effort has been made to include everyday words commonly used in medicine which have, however, a different meaning from the one given in the lay dictionaries.

HIGH BLOOD PRESSURE: Its Variations and Control. A Manual for Practitioners. By J. F. Halls Dally, M.A., M.D., B.Chir., Physician to the Mount Vernon Hospital for Tuberculosis and Diseases of the Heart and Lungs. Second edition. Cloth. Price, $4. Pp. 196, with 30 illustrations. New York: William Wood and Company, 1926.

In this edition the author has included much of the recent work on high blood pressure and the diseases of which it is a symptom. The whole work has been revised and amplified. Methods for the determination of blood pressures, and the types of apparatus for their determination, are discussed at length. High blood pressure is regarded as a symptom, and the relatively graver significance of high diastolic pressures is emphasized. In the discussion of methods of treatment a laudable conservative view is taken and a rational dietary, general hygienic and medicinal therapy advocated.

GIFTTIERE UND IHRE GIFTIGKEIT. Von Dr. E. N. Pawlowsky, Professor der Zoologie und vergleichenden Anatomie an der miltäremedizinischen Akademie in Leningrad. Paper. Price, 27 marks. Pp. 516, with 176 illustrations. Jena: Gustav Fischer, 1927.

This is another contribution to the numerous German encyclopedic considerations on the subject of medicine. It emanates, however, from the school of military medicine in Leningrad. It provides the available knowledge concerning all of the insects, snakes, spiders, fishes and other living organisms that secrete poisons. There is an excellent bibliography, which does not neglect American contributions. The volume is quite scientific and represents an accumulation of important facts in easily readable form.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits. Books listed in this department are not available for lending. Any information concerning them will be supplied on request.

LARYNGEAL TUBERCULOSIS. By Frank Robert Spencer, A.B., M.D., F.A.C.S., Assistant Professor of Otolaryngology, Department of Medicine and Surgery, University of Colorado. With a Chapter on Gross Postmortem and Microscopic Pathology. By Philip Hillkowitz, B.S., M.D., Director of Clinical Laboratories of Mercy Hospital. Cloth. Price, $5. Pp. 69, with 57 illustrations. Philadelphia: J. B. Lippincott Company, 1927.

Beautifully illustrated, up-to-date, practical monograph on laryngeal tuberculosis.

CLINICAL NEUROLOGY FOR PRACTITIONERS OF MEDICINE AND MEDICAL STUDENTS: Largely Based Upon the Book by Prof. Dr. Hans Curschmann. By Edward A. Strecker, A.M., M.D., Professor of Nervous and Mental Diseases, Jefferson Medical College, Philadelphia, and Milton K. Meyers, B.S., LL.B., M.D., Neurologist to the Northern Liberties Hospital, Philadelphia. A free translation with changes and additions. Cloth. Price, $3.50. Pp. 410. Philadelphia: P. Blakiston's Son & Company, 1927.

Guide to the elements of neurology for general practitioners.

HANDBUCH DER HALS- NASEN- OHRENHEILKUNDE: Mit Einschluss der Grenzgebiete. Herausgegeben von A. Denker und O. Kahler. Band VII. Die Krankheiten des Gehörorgans II, und Band VIII. Die Krankheiten des Gehörorgans III. Paper. Price, 72 marks and 60 marks. Pp. 804 and 666, with 282 and 107 illustrations. Berlin: Julius Springer, 1927.

More volumes in this monumental German system of disease of the ear, nose and throat.

LESSONS ON MASSAGE. By Margaret D. Palmer. Sixth edition revised by Dorothy Wood, M.R.C.S., L.R.C.P., Examiner to the Chartered Society of Massage and Medical Gymnastics. Cloth. Price, $4. Pp. 320, with 71 illustrations. New York: William Wood & Company, 1927.

New edition of what must be a popular work in England.

X-RAY DIAGNOSIS: A Manual for Surgeons, Practitioners and Students. By J. Magnus Redding, F.R.C.S., Senior Surgical Radiologist to Guy's Hospital. Cloth. Price, $7. Pp. 228, with 80 illustrations. New York: William Wood & Company, 1927.

Poorly printed guide to use of roentgen ray in diagnosis.

APPLIED REFRACTION. By Homer Erastus Smith, M.D., Assistant Surgeon Manhattan Eye, Ear and Throat Hospital, New York City. Cloth. Price, $2.75. Pp. 131, with 9 illustrations. New York: William Wood & Company, 1927.

Advanced aid for those already learned in this field.

EXAMINATION OF CHILDREN BY CLINICAL AND LABORATORY METHODS. By Abraham Levinson, B.S., M.D., Associate in Pediatrics, Northwestern University Medical School Second edition. Cloth. Price, $3.50. Pp. 192, with 85 illustrations. St. Louis: C. V. Mosby Company, 1927.

New edition of standard guide to pediatric practice.

AIDS TO SANITARY SCIENCE AND LAW. By C. F. White, M.B., Ch.B., D.P.H., Assistant Medical Officer of Health, Port of Liverpool. Cloth. Price, $1.50. Pp. 316. New York: William Wood & Company, 1926.

Rewritten guide to British practice in preventive medicine.

DISEASES OF THE INTESTINES. By A. P. Cawadias, O.B.E., M.D., M.R.C.P. Cloth. Price, $6. Pp. 299, with illustrations. New York: William Wood & Company, 1927.

Brief guide to British practice in gastro-intestinal diseases.

IN BORNEO JUNGLES AMONG THE DYAK HEADHUNTERS. By William O. Krohn, Ph.D., M.D. Cloth. Price, $5. Pp. 327, with illustrations. Indianapolis: Bobbs-Merrill Company, 1927.

A medical view of travels among the head-hunters.

LEHRBUCH DER GEBURTSHILFE. Von Prof. Dr. Wilhelm Zangemeister, Direktor der Universitäts-Frauenklinik in Königsberg i. Pr. Paper. Price, 40 marks. Pp. 834, with 348 illustrations. Leipsic: S. Hirzel, 1927.

Another German textbook of obstetrics.

ESSAI SUR UNE NOUVELLE RADIOLOGIE VASCULAIRE. Par Manoel de Abreu. Paper. Pp. 215, with 60 illustrations. Paris: Masson & Cie, 1926.

Roentgenology of the blood vessels.

THE NATIONAL ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS. Historical Sketch, 1898-1926. Paper. Pp. 68, with illustrations. London, 1926.

History of the British organization.

THE MYTH OF THE INDIVIDUAL. By Charles W. Wood. Cloth. Price, $2.50. Pp. 297. New York: John Day Company, 1927.

A newspaper man considers man's human relationships.

THE ROMANCE OF THE ATOM. By Benjamin Harrow. Cloth. Price, $1.50. Pp. 162, with illustrations. New York: Boni and Liveright, 1927.

Popular exposition of small matter.

DIE CHIRURGIE: Eine zusammenfassende Darstellung der allgemeinen und speziellen Chirurgie. Herausgegeben von Prof. Dr. M. Kirschner, und Prof. Dr. O. Nordmann. Lieferung 13. (Band IV.—1. Teil). Die Chirurgie des Gesichts, des Oberkiefers und des Unterkiefers, einschliesslich der Zähne. Von Prof. Dr. R. Klapp, Dr. F. Bange, und Priv.-Doz. Dr. F. Ernst. Die Chirurgie der Nase und der Nebenhöhlen. Von Prof. Dr. H. Beyer. Paper. Price, 27 marks. Pp. 637-1036, with 410 illustrations. Berlin: Urban & Schwarzenberg, 1927.

YEAR-BOOK OF PHARMACY COMPRISING OFFICIAL INFORMATION RESPECTING THE PHARMACEUTICAL SOCIETY OF GREAT BRITAIN: Scientific Abstracts Relating to Pharmacy, Materia Medica, and Chemistry Covering the Period October, 1925, to October, 1926. With the Transactions of the British Pharmaceutical Conference at Its Sixty-Third Annual Meeting, 1926. Cloth. Pp. 632. London: Pharmaceutical Press, 1926.

STATE HEALTH DEPARTMENT SUPERVISION IN THE CONTROL OF TUBERCULOSIS. By Robert E. Plunkett, M.D., Director, Division of Tuberculosis, New York State Department of Health. Paper. Price, 50 cents. Pp. 79. New York: National Tuberculosis Association, 1927.

LA DOSIFICACIÓN DE LA SANOCRISINA Y SUS EFECTOS TERAPÉUTICOS PRÓXIMOS EN LA TUBERCULOSIS PULMONAR. Por el Doctor José Codina Castellvi, médico del Hospital General de Madrid. Paper. Pp. 128, with illustrations. Madrid, 1927.

DEUTSCHER BÄDERKALENDER. Herausgegeben vom "Allgemeinen Deutschen Bäderverband E. V." Cloth. Price, $1. (Free to physicians). Pp. 375, with illustrations. New York: German Health Resorts, 1926.

EXPERIMENTACIONES ENDOCRINAS. Por el Dr. Pablo Heredia, Jefe de trabjos prácticos de semiologia adscrito a la catedra de clinica médica. Paper. Pp. 217, with illustrations. Buenos Aires, 1926.

INTERNATIONAL HEALTH YEAR-BOOK, 1925. (Second Year.) Reports on the Public Health Progress of Twenty-One Countries. Paper. Pp. 638. Geneva: League of Nations, 1926.

SOME GERMAN SPAS. A Holiday Record. By S. L. Bensusan. Second edition. Cloth. Price, $1.50. Pp. 172, with illustrations. New York: German Health Resorts, 1926.

Miscellany

THE LISTER CENTENARY

Representatives of surgery from the whole world united with all that is eminent in English life in celebrating the centenary of Lord Lister's birth. The keynote of the proceedings may be epitomized in the well known words of the American ambassador, Mr. Bayard, addressed to Lister in proposing his health at a Royal Society banquet. "My lord," said he, "it is not a profession, it is not a nation, it is humanity itself which, with uncovered head, salutes you." These words were quoted more than once in the addresses. It was fitting that Glasgow should open the celebrations, as it was during the period 1860-1869, while professor of surgery at that university, that Lister introduced his antiseptic system. All sections of the community, medical, religious, academic and municipal, joined in the tribute. The celebrations opened with a commemoration service in the cathedral, attended by representatives of fifty public and scientific bodies. Rev. Dr. Lauchlan MacLean Watt, the minister of the cathedral, in the course of a tribute described Lister as one of God's greatest gifts to man. After the service the delegates taking part in the celebrations were entertained at luncheon in the city chambers by the lord provost and the corporation. Sir John Bland-Sutton, ex-president of the Royal College of Surgeons, delivered an oration in memory of Lister. After describing Lister's great advance, he made a remarkable forecast: "This is not the end," said he. "The legitimate function of surgery is the repair of physical injuries. Morbid growths must be cured by drugs prepared by biochemists. Chemotherapy and physics, which have furnished medicine with powerful and reliable remedies, will help to deliver mankind from some of the most distressing and unpromising operations of modern surgery. There are clear signs of the dawn of such an era."

RECEPTION AT BUCKINGHAM PALACE

The king received at Buckingham Palace about a hundred delegates from all parts of the civilized world. An address, presented to the king by Sir Ernest Rutherford, president of the Royal Society, described Lord Lister as one of the greatest benefactors of the human race. His brilliant powers as an investigator and his single-minded devotion to science enabled him, in applying to the problems of surgery the discoveries of his great contemporary Pasteur, to lay bare the hidden causes of septic inflammation, to discover the means of its prevention, and thereby to inaugurate a new epoch in the science and practice of surgery. "It may well be doubted," it went on, "whether the scientific activity of any other one man has achieved so much for the saving of human life and for the prevention and relief of the physical suffering which afflict mankind." The king, in reply, said that any country might be proud to claim Lister as its citizen. He welcomed the representatives of medical and surgical science, both from the dominions overseas and from all parts of the civilized world who came to join in honoring his memory.

LISTER'S EARLY LIFE

Before the Royal Society of Medicine, Sir St. Clair Thomson gave an address entitled "A House Surgeon's Memories." He said that Lister achieved more for mankind than all the surgeons from the beginning of history. Before his coming the results of surgical wounds were hardly better than in the dark ages, and yet he lived to see his work and teaching result in the saving of more lives than had been destroyed by all the military heroes of all the ages. Lister was of pure English stock. His people came from Yorkshire. His father

was a prosperous wine merchant in London, from whom he inherited other things besides a competence. Among these was a taste for scientific pursuits. The wine merchant was deeply interested in the science of optics; he helped to perfect the microscope and was a fellow of the Royal Society. In 1853, at the age of 26, Lister went to Edinburgh, and at the early age of 33 he was called to fill the chair of surgery in the University of Glasgow. There he remained until 1869, when he returned to Edinburgh as professor of surgery in the university.

HIS WORK IN LONDON

In 1877 Lister was invited to London. He accepted the invitation solely because he felt that on the larger and more central stage of the metropolis he could so demonstrate his work that he would the sooner fulfil his mission and win the whole world to accept his principles. In taking leave of his class in Edinburgh he announced that it was only a sense of duty that impelled him to leave a school where he had received great kindness, and to take a cold plunge into what he said "might prove to be a sea of troubles." He was indeed right; a cold and stormy sea of trouble was awaiting him in London. In Edinburgh Lister's class frequently numbered 400 students; in London some ten to twenty might turn up, but these gradually fell off. Ten years after his arrival Lister referred to his small classes after his crowded audiences at Edinburgh as "a humiliating experience."

Sir St. Clair Thomson thought the faulty method of teaching and examination had much to do with this result. Lister's teaching did not help a man much to pass an examination and secure a diploma. It was more difficult to suggest why London surgeons neglected or belittled his work. One was that the discoveries of Pasteur, on which Lister's conceptions of wound infection were based, were too recent to be understood as the basis of his principles. Bacteriology had hardly come into existence. Another possible reason was that Lister had, by way of experiment, to try many things in his application of these principles to wound dressing. But if students and London surgeons were apathetic over the revolution in surgery being wrought in their very midst, it was not so with foreigners, who in 1883 poured into King's College Hospital from the end of the earth. Yet a well known surgeon—a fellow of the Royal Society and a president of the Royal College of Surgeons—frequently raised a laugh by telling any one who came into his operating theater to shut the door quickly, in case "one of Mr. Lister's microbes should come in." One day, in 1883, after Lister had been six years in London, standing on the steps of the hospital Sir St. Clair was discussing with Lister the attack made on him for having the temerity to open a healthy knee joint. Lister began by quietly remarking that the day must surely come when the profession would accept his methods, "and," he added warmly, "if the profession does not recognize them, the public will learn of them, and the law will insist on them." Then placing his hand on Sir St. Clair's shoulder, he continued, "Thomson, I do not expect to live to see that day, but you may." Lister did more for surgery in his lifetime than all the surgeons of all the ages had effected since the days of Hippocrates.

At King's College Hospital the Listerian Society held a meeting at which addresses were given on Lister by well known surgeons, many of whom acted as Lister's house surgeons. Sir Watson Cheyne said there had been great statesmen, great generals, philosophers and religious teachers, whose influence and work had left an indelible mark on the future happiness and progress of the human race; but the outcome of Lister's work was perhaps more widespread than that of any of these great men, and its influence on mankind was not limited to any country or race. Sir Watson described how Lister asked him to go to London and act as his house surgeon and also invited three other students. They looked on their selection as an unbelievable honor. Their only aim was to do their part of the work as carefully as possible and thus show unbelievers the truth of every claim made for Lister's methods. Lister missed in London the large number of students who believed in him. He thought Lister had struck a poor type of student at King's College Hospital and was unhappy about it. He found later that the secret of the supposed want of enthusiasm was that examining bodies did not favor Lister's methods, and the students were afraid to mention the subject; in fact, they were so afraid that they did not learn Lister's views until they had passed their examination. A good many remained to learn Lister's work.

SPREAD OF LISTER'S WORK

In the great hall of the British Medical Association the prime minister, Mr. Baldwin, received the delegates from foreign countries, oversea dominions, British universities, and institutions associated with medicine and science. The reception presented a brilliant scene as the representatives in academic dress were received. Sir Ernest Rutherford, president of the Royal Society, presided, and with him was Mr. R. G. Hogarth, president of the British Medical Association. Sir Ernest said it was not necessary to be a specialist to recognize what a debt the whole world owed to the discoveries of Lister and to his single-minded devotion to the cause of suffering humanity. As president of the Royal Society, an office which was filled with so much distinction by Lord Lister, and on behalf of the executive committee, he extended a cordial welcome to the delegates. He added that messages had been received from distant parts of the world, and he read congratulatory telegrams from the Imperial Academy, Tokyo, and the State Institute of Experimental Medicine, Leningrad. Professor Hartmann of Paris said that Lister had the merit of seeing the full advantage that could be taken of the experiments of Pasteur on fermentation for the treatment of wounds. He described how in 1868 a young Paris surgeon, Lucas-Championnière, visited Glasgow, and on his return to France published an article on the Lister method, which he described as marvelous. France was one of the countries where Lister's method was most rapidly adopted. Professor von Gruber of Munich said that some of the most prominent German surgeons were among the first to appreciate to the full the greatness of Lister's invention and to help to force its way by conscientious application. After referring to the departure from Lister's original method he said that the fundamental perception of Lister, that wound diseases were infectious diseases, had remained unshaken. It was and would be the ground work of every kind of wound therapeutics. Above that, it had decisive biologic importance, for it had influenced their whole judgment of the processes of life.

INFLUENCE OF QUAKER ANCESTRY

A service was held in Westminster Abbey, where the scene was made picturesque by the brightly colored robes of physicians from universities in all parts of the world. These had assembled in the choir, and before the opening of the service a procession composed of about thirty representatives of the Royal Society, the Royal College of Physicians, and the Royal College of Surgeons, also wearing their robes, advanced from the cloisters to join them. Many had attended the memorial service of Lord Lister held at the abbey in 1912, but that was an occasion of mourning and there were no robes. The service was one of thanksgiving, in which Lister's achievements were again gratefully acknowledged and tributes were paid to the influence of Quaker training on his work. The anthem "When the Ear Heard Him" (Handel) was sung, and appropriate prayers were said.

Dr. Barnes, F.R.S., bishop of Birmingham, in his sermon spoke of the religious principles that fortified Lister's character and guided his actions, the patient enthusiasm that served his genius. The persistence with which he pursued a single great aim throughout his career was remarkable. As a medical student at University College he read a paper on hospital gangrene; at the end of his professional life he was still endeavoring to perfect the practical details of the aseptic method. Where a lesser man might have been intoxicated by fame or made arrogant by the distinctions showered on him, Lister preserved a humility that was singularly attractive. He owed much to his Quaker ancestry. The great-grandfather whose name he bore was a Yorkshire Quaker of humble origin who came to London and kept a tobacconist's shop. His grandfather became a wine merchant in the city and brought to prosperity a business which his father inherited. Perhaps it was not fanciful to see in the ability of Lister's father and in a touch of Celtic imagination derived from his mother, who was reputed to be of Irish origin, the source of his genius. Throughout his life, Lister appeared to have retained the Christian faith of his childhood. When he married the daughter of Syme, professor at Edinburgh, he ceased to belong to the Society of Friends because she was not of that body: and he then became a member of the Scottish Episcopal Church. In youth he had been ready to discuss religious questions, but in mature life he, like most men, was reticent as to his spiritual beliefs. It was known that he combined the hope of personal immortality with faith in the goodness of the Creator, and when his life was drawing to its close he publicly expressed his conviction that "there is no antagonism between the religion of Jesus Christ and any fact scientifically established." The creed of a modern man of science was seldom a bundle of dogmas; it was rather an attitude of spirit. After discussing the results of Lister's work, the bishop said that sometimes in speculating on the future of humanity they thought of the highly evolved forms of life that lorded the earth in past ages. They disappeared, swept away probably by minute organisms. Was such an end to be the fate of humanity? Many a zoologist would answer "Yes." And yet man differed from all other animals. The theologian had justification in holding that the characteristic developments and powers of the human mind set man apart. He had a soul, some quality of personality of survival value in the scheme of the universe. Was it possible that, by virtue of these mental powers, man would conquer disease and pain and thus in the end prepare the way for a kingdom of God on earth?

WORK AS PHYSIOLOGIST, BACTERIOLOGIST AND SURGEON

At the house of the Royal Society of Medicine, the work of Lister as physiologist, bacteriologist and surgeon was estimated by men eminent in those branches. Sir Ernest Rutherford, president of the Royal Society, occupied the chair. He said that Lister's discovery of antiseptic surgery was one of the most striking examples of the power of scientific methods in advancing knowledge. In Lister they had the most unusual combination of philosophic outlook and great power of experiment, with a strong command of technic. Sir Charles Sherrington dealt with Lister's physiologic work. He spoke of his early papers on various muscles and on the coagulation of the blood, and said that almost from the outset he flung himself on what was to be his life work. He had enriched physiology with an advanced means for doing its work. He put into its hands for all time a superlative refinement of its methods and made possible observations that had hitherto been impossible. How could Pawlow have made his epoch-opening study of the digestive processes except by leaning on Lister's surgical principles? How could the physiologists of Toronto have discovered insulin but for Lister's methods? While helping man to mastery over disease, Lister contributed to free experimentation from the infliction of pain. Man, sacrificing animal life as he did for human need, had the right to regard the intellectual and moral impulse driving him to mitigate and dominate disease as justified in its resort to animal experimentation. He felt the more fully justified in so doing and took that step with a freer conscience, largely because, owing to Lister, it could be done without inflicting pain or causing suppuration.

William Bulloch of the London Hospital dealt with Lister's work as a bacteriologist. He said that the best of his scientific work was not done in any laboratory but at home in the early morning and late at night, before and after a harassing day's surgical work. The work of Pasteur came to Lister as a revelation, and almost at once he grasped its full significance for surgery. It was a vulgar error to regard him as a mere imitator of Pasteur. Four years before he knew of Pasteur's work he was getting extraordinarily near the truth as to the cause of suppuration, and he afterward advanced far beyond the point to which the Frenchman had led him.

Sir Berkeley Moynihan, president of the Royal College of Surgeons, said that the work of Lister had done for the craft of surgery what John Hunter did for the science of surgery. His earlier work owed a great deal to John Hunter. When he learned almost accidentally of the work of Pasteur, his mind was open to the new truth and almost expectant of it. His first attempt was to destroy within the wound the micro-organisms that caused putrefaction and decomposition. His later attempts were to destroy those organisms as they were about to enter the wound and ultimately to destroy them in the whole field of operation before they had a chance to enter the wound. The search for the perfect bactericide was still going on. There had grown up in surgery a comparison of two methods—antiseptic and aseptic. They realized now that the conflict between the protagonists of the two was senseless and jejune. "I do not recognize the existence of aseptic surgery," said Sir Berkeley. "I have never performed an operation in which antiseptics were omitted. Aseptic surgery is only the sensible practice of antiseptic surgery. They do not differ in ideas but only in methods." The immediate result of Lister's work was the perfecting of the old operations. New operations also became possible, but the most marvelous feature of the advance made possible was that surgery became a great implement of research, how great was not realized even today by surgeons or physiologists. For a time the physiologist had gone astray and did not walk, as he should, hand in hand with the surgeon. The science of surgery was now so much in advance of the sciences on which it depended that until these caught up it must for a time be stationary. Surgery had rewritten the textbooks of medicine concerning the visceral diseases. It had put into the hands of all a method, curiously neglected even to the present hour, of explaining most of the diseases that were still classed as medical. The influence that Lister's work might have on surgery was almost completed. They could hardly make surgery safer, but Lister's hypothesis, which governed the practice of surgery, was at least of equal importance in relation to medicine. Infection in medicine was responsible for a vast number of diseases, a number much greater than appeared to be realized. Here again there had been apathy.

The discovery of infections and their influences shown in 1900 by William Hunter had received far less attention than it deserved. Lister had done more than all this. The nations of the earth were ever at war. Were there not between them all bonds that should unite them so strongly that they could not be separated, and was there any bond between the nations so strong as that which Lister had forged? Had

they not seen in London during the last few days a league of all the nations? Was it not possible that, because of their love for Lister and in the common reverent service to humanity which Lister made possible they might find a way to heal the wounds, not of men but of nations? If they could do that they might be the heralds of a new day when there should be no war, and then the Quaker spirit of Lister, which loathed the drums of war, might for ever be at peace.

Medicolegal

Cause of Action Stated Barred as One for Malpractice

(Horowitz v. Bogart (N. Y.), 217 N. Y. Supp. 881)

The Supreme Court of New York, appellate division, first department, in reversing an order which denied the defendant's motion to dismiss the complaint on the ground that the cause of action set forth therein was barred by the two-year limitation applying to actions for malpractice, says that the sole question before the court was whether the complaint set forth a cause of action for breach of contract or one for malpractice. If the latter, it was conceded that the defendant's motion to dismiss should have been granted.

The complaint alleged that the defendant was a physician and surgeon duly licensed to practice in the state of New York; that on or about Feb. 12, 1921, the plaintiff, who was suffering from a duodenal ulcer, entered into an agreement with the defendant whereby, in consideration of $150 to be paid by the plaintiff to the defendant, the latter agreed to perform a surgical operation on the plaintiff for the removal of the duodenal ulcer from the plaintiff's body. It was further alleged that the plaintiff performed all the terms and conditions of the contract on his part to be performed, and submitted to an operation by the defendant, Feb. 21, 1921; that the defendant failed and neglected to perform his part of the agreement, in that he failed and neglected to remove the duodenal ulcer from the body of the plaintiff, permitting it to remain therein, and instead, removed the appendix. It was also alleged that the plaintiff suffered severe pain and mental anguish, and was caused to expend considerable sums of money for medicine and medical and surgical treatment, and was unable to attend to his usual vocation for a long time, all to his damage in the sum of $50,000.

While neither lack of skill nor negligence was charged, the basis of the charge was improper performance of the work to the personal injury of the plaintiff. The damages demanded, namely, $50,000 for pain and suffering, were not suited to an action for breach of the alleged contract. The nature of the charge of malpractice was not changed by failing to state it sufficiently in necessary detail, or by putting it in language suitable to the statement of a cause of action on contract, omitting the usual allegations as to absence of skill and negligence. The motion to dismiss the complaint should be granted.

Jurors Testing by Feeling Hardness of Trepanned Spot

(McAndrews v. Leonard (Vt.), 134 Atl. R. 710)

The Supreme Court of Vermont says it appeared that as a result of an automobile accident there was a depressed fracture of the plaintiff's skull, which necessitated a trepanning. In view of the testimony of a physician called by the defendant as an expert witness that he had made an examination at the point where the bone was taken out and that callus had formed there that was as hard as the bone surrounding it, the plaintiff asked the court to permit a physician whom she had called as an expert witness to demonstrate to the jury her head, by having the jurors themselves make examination by the touch of the finger on that part of her skull where the bone was taken out, and compare it in hardness with that part of the skull which remained. The defendant objected to such examination by the jurors, on the ground that the question was one of fact requiring expert testimony, and not one that laymen could determine by the sense of touch; that the jury must determine it on all the evidence, giving such weight as it thought proper to the testimony of the experts on the subject. The court inquired of the plaintiff's expert whether it was a matter that could be ascertained by a layman by feeling of the skull, and the physician answered that he thought it could. Thereupon, subject to exception by the defendant, the court ruled permitting such examination, saying, "The doctor can point out the spot—where it is." While the record did not state that such examination was in fact made by the jurors, the supreme court thinks that it was fairly inferable from what was there said; and the supreme court so treats it in deciding the question presented by the exception. It should be borne in mind that the particular examination that the jurors were thus permitted to make was not technical in nature, nor was it one requiring special knowledge or skill. It was not for the purpose of ascertaining the kind of substance that had filled into the hole in the skull, made by the trepanning operation—that is, whether it was fibrous tissue as the evidence on the part of the plaintiff tended to show, or callus as the evidence on the part of the defendant tended to show—but it was to examine by the touch of the finger the substance so filled in, the spot to be pointed out to them by the plaintiff's expert witness, to see whether the substance with which the hole had become filled was as hard as the surrounding bone or was softer. Its quality in this respect was an important question; for the harder the substance was, until it equaled in such respect the normality of the surrounding bone, the greater was the resulting protection to the part of the brain covered by it. The verdict, however, could not be based exclusively on the knowledge so acquired. But the jury had a right to base its verdict on such examination, together with all the evidence in the case. Judgment for the plaintiff was affirmed, the action being one to recover damages for the personal injuries sustained in the automobile accident.

Valid Proceedings Against Intruder into Profession

(Ferguson v. State ex. rel. Acton et al. (Ala.), 110 So.R. 20)

The Supreme Court of Alabama, in affirming a judgment in favor of the plaintiff, says that this was an action in the nature of a quo warranto, instituted in the name of the state on relation of one Robinson against defendant Ferguson, charging him with intruding into the profession of treating or offering to treat diseases of human beings without having obtained a license or certificate of qualification therefor, as required by statute. The complaint followed the form adopted by the pleader in the case of *Robinson* v. *State*, 212 Ala. 459, 102 So. 693, which, in turn, followed the language of the statute. The court thinks it sufficient, and that a demurrer thereto was properly overruled.

On the filing of the complaint there was also filed security for the costs, which was duly approved. While the name of Robinson, the relator, was not found on the security, this fact did not impair the security. The security approved on instituting the proceeding was effective for all purposes. Subsequently the complaint or information was amended by adding others as parties plaintiff and relators. This amendment was authorized by statute. A motion to strike the amendment and dismiss the cause was properly overruled. Nor did the amendment necessitate any additional security for costs. That given at the institution of the proceedings was effective throughout and uninfluenced by subsequent amendment.

Thereafter Robinson, the original relator, as an individual and as relator, moved a dismissal of the suit. Conceding that this was sufficient as a withdrawal of Robinson from the suit, such motion did not work a discontinuance or entire change of parties. The state all along was a proper party plaintiff, and the security for costs originally filed furnished the defendant full protection. The sufficiency of the security given by the relators, added by amendment, need not be considered, as the original security sufficed for all purposes.

Special pleas, demurrers to which were sustained, set up, in varying form, the defense that the statute requiring certificates of qualification of those who undertake to treat human diseases is violative of both the state and the federal con-

stitutions. The case of *Bragg* v. *State*, Ala. 165, 32 So. 767 (cited in *Wideman* v. *State*, 213 Ala. 170, 104 So. 440), and the authorities therein noted, are a complete answer to this contention, and fully sustain the ruling of the court below.

That the evidence for the plaintiff was sufficient to establish against the defendant a prima facie case was not seriously questioned. The defendant offered nothing to the contrary, and the affirmative charge for the plaintiff was properly given.

Compensation Where Cripple as Employee Is Injured

(American Mut. Liability Ins. Co. et al. v. Brock (Ga.), 135 S. E. R. 103)

The Court of Appeals of Georgia, division number 2, holds that, under the terms of the workmen's compensation act of that state, when an employee, who in childhood had lost his right foot and his right leg to within 3 or 3½ inches of the knee joint, suffered a compensable injury to the remaining portion of the leg, as a result of which he sustained a 50 per cent loss of the use of that portion, he was entitled to compensation for such partial loss of use at the rate of 50 per cent of the amount which he should have received for the loss of a leg, or for the loss of use of a leg, irrespective of the previous disability or injury.

Section 32 of the compensation act provides that for the loss of a leg the employee shall be entitled to compensation at the rate of 50 per cent of his average weekly wages for 175 weeks. Subsection r provides that total loss of use of a member shall be considered as equivalent to the loss of such member, and that compensation for partial loss, or for partial loss of use of a member, "shall be such proportion of the payments above prescribed for total loss as such partial loss bears to total loss." Section 34 is to the effect that, if an employee already has a permanent disability or has elsewhere sustained a permanent injury, such as specified in section 32, he shall be entitled to compensation for an injury in his employment only for the degree of incapacity which would have resulted from the later accident, if the earlier disability or injury had not existed. The employee in this case was wearing an artificial limb, and was making out with the piece of leg that he had. Presumably he was charged with the disability in the price of his labor. Section 34, recognizing the probability of such charge, presumes it as a matter of law. Since he was not a whole man, and was receiving less for his work because of that fact, he ought not to be charged with the disability again in adjusting the matter of compensation for injury. Compensation being based on wages, the reduction made in wages, on account of the crippled service, automatically guaranteed a corresponding reduction in compensation, and to charge the claimant with his prior disability at both ends of the transaction would be manifestly unfair. What is more, under section 34, it cannot be done.

Section 34 has nothing to do with the particular provision by which compensation will be determined, but simply means that whatever capacity a man has after some other accident, misfortune or injury shall ordinarily be considered as the unit from which to determine the percentage of his subsequent impairment. The claimant had not lost his leg. He had lost a little more than his foot. The employer accepted him as he was and paid him as he was, and for the purposes of this case he will be regarded as a two-legged man. If he had lost all the remaining portion of the abbreviated member, or all the use of it, he would have received compensation at the rate of 50 per cent of his average weekly wages for 175 weeks. Having lost 50 per cent of the use of such remaining portion, he was entitled, under subsection r, to be paid 50 per cent of the amount which he would have received for a total loss of use.

Let it be understood that this court does not mean to hold that *any* portion of a leg is to be considered as a whole leg. In the case before the court the part that remained after the prior injury included, and extended 3½ inches below, the knee joint. In view of section 32r, the court thinks the injury to such remaining portion should be considered as an injury to a leg. Whether this could be true if all that remained was above the knee joint was a question not involved in the present case.

Society Proceedings

COMING MEETINGS

American Medical Association, Washington, D. C., May 16-20. Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

American Association for the Study of Allergy, Washington, D. C., May 16-17. Dr. A. H. Rowe, 242 Moss Ave., Oakland, Calif., Sec'y.

American Association for the Study of the Feebleminded, Cincinnati, June 4-6. Dr. H. W. Potter, Thiells, New York, Secretary.

American Association for Thoracic Surgery, New York, May 9-11. Dr. Ethan Flagg Butler, Robert Packer Hospital, Sayre, Pa., Secretary.

American Association of Genito-Urinary Surgeons, Absecon, N. J., May 9-11. Dr. W. C. Quinby, Peter Bent Brigham Hospital, Boston, Sec'y.

American Bronchoscopic Society, Atlantic City, May 21. Dr. H. B. Orton, 24 Commerce Street, Newark, N. J., Secretary.

American Child Health Association, Washington, D. C., May 9-11. Dr. Philip Van Ingen, 125 East 71st Street, New York, Secretary.

American Climatological and Clinical Association, White Sulphur Springs, W. Va., May 23-27. Dr. A. K. Stone, Auburn Street, Framingham Center, Mass., Secretary.

American Gynecological Society, Hot Springs, Virginia, May 23-25. Dr. F. E. Keene, Medical Arts Building, Philadelphia, Secretary.

American Heart Association, Washington, D. C., May 17. Dr. Haven Emerson, 370 Seventh Avenue, New York, Secretary.

American Laryngological Association, Atlantic City, May 23-25. Dr. G. M. Coates, 1721 Pine Street, Philadelphia, Secretary.

American Laryngological, Rhinological and Otological Society, Atlantic City, May 26-28. Dr. R. L. Loughran, 33 East 63d Street, New York, Secretary.

American Neurological Association, Atlantic City, May 24-26. Dr. H. A. Riley, 870 Madison Avenue, New York, Secretary.

American Ophthalmological Society, Quebec, Canada, June 27-29. Dr. Emory Hill, Professional Building, Richmond, Va., Secretary.

American Proctologic Society, Philadelphia, May 12-14. Dr. Louis A. Buie, Mayo Clinic, Rochester, Minn., Secretary.

American Psychiatric Association, Cincinnati, May 31. Dr. E. D. Bond, 4401 Market Street, Philadelphia, Secretary.

American Psychopathological Association, Cincinnati, June 3. Dr. M. W. Peck, 520 Commonwealth Avenue, Boston, Secretary.

American Radium Society, Washington, D. C., May 16-17. Dr. E. C. Ernst, 412 Humboldt Building, St. Louis, Secretary.

American Society of Clinical Pathologists, Washington, D. C., May 13-15. Dr. Ward T. Burdick, Children's Hospital, Denver, Secretary.

American Surgical Association, Richmond, Va., May 12-14. Dr. R. B. Greenough, 8 Marlborough Street, Boston, Secretary.

American Therapeutic Society, Washington, D. C., May 14-16. Dr. W. J. Mallory, 1720 Connecticut Ave., N.W., Washington, D. C., Secretary.

American Urological Association, Baltimore, May 23-25. Dr. H. G. Hamer, 723 Hume-Mansur Building, Indianapolis, Secretary.

Arkansas Medical Society, Little Rock, May 11-13. Dr. William R. Bathurst, 810 Boyle Building, Little Rock, Secretary.

Associated Anesthetists of the United States and Canada, Washington, D. C., May 16-17. Dr. F. H. McMechan, Avon Lake, Ohio, Secretary.

Connecticut State Medical Society, Hartford, May 25-26. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

Georgia, Medical Association of, Athens, May 11-13. Dr. Allen H. Bunce, 139 Forrest Avenue, N. E., Atlanta, Secretary.

Illinois State Medical Society, Moline, May 31-June 2. Dr. H. M. Camp, Lahl Building, Monmouth, Secretary.

Iowa State Medical Society, Council Bluffs, May 11-13. Dr. T. B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.

Maine Medical Association, Portland, June 13-15. Dr. B. L. Bryant, 265 Hammond Street, Bangor, Secretary.

Massachusetts Medical Society, Boston, June 6-8. Dr. W. L. Burrage, 182 Walnut Street, Brookline, Secretary.

Medical Library Association, Washington, D. C., May 16-17. Miss Sue Biethan, General Library, University of Michigan, Ann Arbor, Sec'y.

Medical Women's National Association, Washington, D. C., May 15-17. Dr. Maud Parker, Medical Dental Building, Seattle, Secretary.

Michigan State Medical Society, Mackinac Island, June 14-17. Dr. F. C. Warnshuis, Grand Rapids National Bank Bldg., Grand Rapids, Sec'y.

Minnesota State Medical Association, Duluth, June 30-July 2. Dr. E. A. Meyerding, 11 West Summit Avenue, St. Paul, Secretary.

Mississippi State Medical Association, Vicksburg, May 10-12. Dr. T. M. Dye, McWilliams Building, Clarksdale, Secretary.

National Association for the Study of Epilepsy, Cincinnati, May 30-31. Dr. A. L. Shaw, 108B Olbiston Building, Utica, N. Y., Secretary.

National Tuberculosis Association, Indianapolis, May 23-26. Dr. G. M. Kober, 1819 Q Street, N.W., Washington, D. C., Secretary.

Nebraska State Medical Association, Lincoln, May 10-12. Dr. R. B. Adams, McKinley Building, Lincoln, Secretary.

New Hampshire Medical Society, Portsmouth, June 22-23. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.

New Jersey, Medical Society of, Atlantic City, June 9-11. Dr. J. B. Morrison, 66 Milford Avenue, Newark, Secretary.

New Mexico Medical Society, Carlsbad, May 9-11. Dr. C. M. Yater, 310 N. Richardson Avenue, Roswell, Secretary.

New York, Medical Society of the State of, Niagara Falls, May 9-12. Dr. D. S. Dougherty, 2 East 103d Street, New York, Secretary.

North Dakota State Medical Association, Grand Forks, June 1-2. Dr. J. G. Lamont, San Haven, Acting Secretary.

Ohio State Medical Association, Columbus, May 10-12. Mr. Don K. Martin, 131 East State Street, Columbus, Executive Secretary.

Rhode Island Medical Society, Providence, June 2. Dr. J. W. Leech, 369 Broad Street, Providence, Secretary.

West Virginia State Medical Association, White Sulphur Springs, June 21-23. Mr. Joe W. Savage, 303 Professional Building, Charleston, Executive Secretary.

Wyoming State Medical Society, Cheyenne, June 27-29. Dr. Earl Whedon, Sheridan, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in America for a period of three days. No foreign journals are available prior to 1921, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Heart Journal, St. Louis

2: 229-350 (Feb.) 1927

*Henderson and Haggard Method for Measuring Circulation. M. Ringer, New York.—p. 229.
*Intermittent Incomplete Bundle-Branch Block. F. A. Willius and N. M. Keith, Rochester, Minn.—p. 255.
*Atrioventricular Nodal Rhythm. T. D. Jones and P. D. White, Boston. —p. 266.
Heart Disease from Point of View of Public Health. A. E. Cohn, New York.—p. 275. (To be Cont'd.)
*Electrocardiography of Experimental Heart Disease. W. G. Becke, S. Johnson and H. S. Harris, St. Louis.—p. 302.
*Relation of Obesity to Heart Disease. W. D. Reid, Boston,—p. 311.
*Leukocytosis of Progressive Myocardial Necrosis Following Coronary Artery Thrombosis. E. Libman and B. Sacks, New York.—p. 321.
*Recurrent Benign Fibrinous Pericarditis. D. Poll, New York.—p. 327.
*Local Sclerosis (Healed Infarct) of Heart in Infant. A. G. Mitchell and R. N. Speckman, Cincinnati.—p. 331.

Measuring Blood Flow.—The desirability of a clinical method for the blood flow determination, and the general principle on which such methods are based, are outlined by Ringer. The Henderson and Haggard method, based on the use of ethyl iodide, is described, and a critical analysis of its elements given. Results with this method in sixty determinations on normal male and female subjects, and twenty determinations on a miscellaneous group of decompensated cardiac patients, are tabulated. These are in accord with the results of the authors of the method and with the results obtained by other workers with other reliable methods. They agree in duplicate within a total percentage deviation from average of ± 5.

Intermittent Incomplete Bundle Branch Block.—Three cases of intermittent incomplete bundle-branch block are presented by Willius and Keith with clinical notes and a discussion of the electrocardiograms. In all instances there was evidence of myocardial disease without endocardial valvular involvement. Cardiac enlargement was not marked in any case, and slight dependent edema occurred in only one instance. Acute cardiac decompensation was present in two cases as evidenced by pulmonary edema, while in the other case clinical decompensation did not occur. These are said to demonstrate that apparent profound disturbances in ventricular conduction may be evanescent, with or without cardiac decompensation. It is emphasized that the electrocardiograph may be the first and only means of detecting serious myocardial changes.

Atrioventricular Nodal Rhythm.—Two cases are reported by Jones and White which present unusual variations and quite different clinical pictures. One case showed merely cardiac enlargement clinically and was investigated because of bradycardia, found when the patient was examined for epigastric difficulties which were presumably due to two esophageal diverticula and to nervousness. Bigeminy was recorded only once and that with an R-P interval of 0.2 second, which is as long as any R-P interval recorded on many of the tracings. Atrioventricular rhythm was the most constant observation, but on one occasion normal rhythm was present when the record was made in the recumbent position, while on the same day, with records made when the patient was sitting up, atrioventricular rhythm returned. On other occasions, there was a definite upright P-wave following the Q-R-S complex. It is evident that depression of the sino-auricular node was responsible for the variations found. In the second case, in which the patient was first seen six days after the onset, an electrocardiogram did not show any clear evidence of auricular activity; there was, however, an occasional bigeminy. This bigeminy persisted over a period of nine days (fifteen days after onset). Several days later there was evidence at times of atrioventricular rhythm, the inverted P-waves showing only in lead II. A record was not obtained that showed the inverted auricular complex sandwiched between two ventricular systoles.

Electrocardiography of Experimental Heart Disease.—This report by Becke, Johnson and Harris bears on the nature of the T-wave in the electrocardiogram. Injection of caffeine and epinephrine causes a myocarditis in rabbits, and the authors show that this myocarditis causes changes in the electrocardiogram. The main change consists in an alteration of the T-wave. The lesion in the base of the left ventricle is apparently the only myocardial change necessary to produce T-wave changes. An auricular lesion produced experimentally suggests that amplification of the negative current produced in rabbits' hearts may perhaps show a change in the P-waves which was not observed in these experiments. Pericarditis does not cause an alteration of the electrocardiogram. It does not appear likely that endocarditis causes a change in the electrocardiogram, nor does a small abscess in the myocardium influence the electrocardiogram.

Obesity and Heart Disease.—Reid is of the opinion that in the ill balanced diet and unhygienic manner of living found in most persons affected by obesity there is a partial explanation of the unfavorable influence of obesity on the heart. Statistical evidence is presented that patients who are obese are prone to develop chronic arterial hypertension and diabetes, and either of these diseases leads to arteriosclerotic changes in the organs of the circulation. It may well be that this arteriosclerosis is the cause of the more serious impairment of the heart in some cases of obesity.

Leukocytosis of Progressive Myocardial Necrosis.—Libman and Sacks report the case of a man, aged 53, who suddenly developed an attack of severe precordial pain radiating to the left shoulder and arm, which was followed by dyspnea, cyanosis, Head zones in front and back, fever, pericarditis and conspicuous polymorphonuclear leukocytosis. He died after an illness of eighteen days, during which period the leukocytosis, slight fever and thoracic hyperesthesia persisted, and the physical signs led to the suspicion of the development of an acute aneurysm of the heart. The chief interest centers about the white blood counts, the first of which was made forty-four hours after the onset of the attack. It revealed a leukocytosis which persisted in varying degree until the death of the patient. Causes for leukocytosis outside the heart, in particular, pulmonary inflammation or infarction, were searched for, but were not found. Infarction of the myocardium, consecutive to coronary thrombosis, was proved by the postmortem examination to be the sole cause of the leukocytosis.

Recurrent Fibrinous Pericarditis.—Poll has observed a patient for more than three years, during which time he has had seven attacks of undoubted pericarditis, of short duration, afebrile in character and of unknown etiology. He says that a search of the literature has failed to reveal mention of a similar case.

Local Sclerosis of Heart in Infant.—The clinical diagnosis in the case reported by Mitchell and Speckman, that of an infant, aged 19 months, was idiopathic cardiac hypertrophy with dilatation and myocarditis. The chief complaint on admission was a dry paroxysmal cough. Roentgen-ray and fluoroscopic examinations of the chest disclosed a very large heart filling the entire left lower chest. The examination was otherwise negative. About a month after the child was admitted to the hospital, the temperature became elevated, numerous moist râles developed throughout both lungs, gallop rhythm returned and the heart action and sounds became gradually and increasingly feeble. Death took place four months later. A large part of the left ventricular wall was hypertrophied, but in the region of the apex there was a sharply circumscribed area, about 3 cm. in diameter, consisting of firm, white scar tissue which extended through the entire myocardium and which was much thinner than the surrounding muscular wall. Scattered throughout the myo-

cardium in the immediate region of this scar were irregular smaller scarred areas. The anatomic diagnoses were: cardiac hypertrophy and dilatation; chronic fibrous myocarditis (healed infarct in the wall of the left ventricle); multiple healed infarcts of the kidneys, and acute bronchitis.

American Journal of Diseases of Children, Chicago

33: 183-362 (Feb.) 1927

Plastic Pleurisy in Infancy; Nine Cases. M. Acuña, A. Casaubon and J. M. Macera, Buenos Aires.—p. 183.
*Scarlet Fever. I. Dick Test. J. A. Toomey, S. Braun and I. Halperin, Cleveland.—p. 197.
*Respiratory Metabolism in Infancy and in Childhood. IV. Elimination of Water Through Skin and Respiratory Passages. S. Z. Levine and J. R. Wilson, New York.—p. 204.
*Pentosuria. D. J. Levy and M. Pierson, Detroit.—p. 213.
*Epilepsy. Chemical Investigations of Treatment by Production of Ketosis. F. B. Talbot, Boston, K. M. Metcalf, Los Angeles and M. E. Moriarty, Boston.—p. 218.
*Anemia in New-Born. B. E. Bonar, Salt Lake City.—p. 226.
*Experimental Rickets. XXVIII. Does Vitamin D Pass into Milk? E. V. McCollum, N. Simmonds, J. E. Becker and P. G. Shipley, Baltimore.—p. 230.
*Purpura Fulminans Due to Meningococcus. S. Battley, Detroit.—p. 244.
Congenital Lymphangiectatic Edema. H. O. Ruh and L. H. Dembo, Cleveland.—p. 249.
*Oils and Fats: Entrance into and Fate in Lungs of Infants and Children. H. Pinkerton, Boston.—p. 259.
*Congenital Defect in Musculature of Abdominal Wall. Case. K. Ikeda and A. V. Stoesser, Minneapolis.—p. 286.
*Earliest Report of Congenital Pyloric Stenosis. J. A. Foote, Washington, D. C.—p. 294.
*Cerebral Birth Paralysis; Factors Which Influence Prognosis and Treatment. T. C. Hempelmann, St. Louis.—p. 296.

Dick Test in Scarlet Fever.—Having applied the Dick test in 3,500 cases, Toomey et al. regard it as being the best method of ascertaining individual immunity or susceptibility to scarlet fever. Control pseudoreactions do not ordinarily occur if the control toxin is boiled for twenty minutes. The reactions that occur about the control mixtures in a small number of cases disappear before twenty-four hours. As a rule, persons with negative Dick tests have had negative reactions for as long as eighteen months.

Respiratory Metabolism in Infants.—The elimination of water through the skin and respiratory tract of ten children under resting conditions was measured by Levine and Wilson in sixty-one calorimeter observations of from two to four hours' duration. The results demonstrate that healthy children and most sick children (afebrile), as well as adults, eliminate approximately 25 per cent of the total heat produced in vaporization through skin and lungs, and the remaining 75 per cent by way of radiation and conduction. The close relation between insensible perspiration and metabolism previously found to exist in adults may be extended to children.

Pentosuria; Familial Incidence.—The case reported by Levy and Pierson tends to bear out certain of the major points emphasized by Garrod. The patient was a Jewish boy, aged 14, and reducing substances were present in the urine of four generations of his family. This is said to be the youngest case of pentosuria on record, and tends to support the supposition that the pentosuria is present from birth, although a single specimen examined some months before the pentosuria was recognized was negative. The familial character of the disturbance accords with other recorded instances. The child improved on a diabetic diet, together with the administration of insulin.

Ketogenic Diet in Epilepsy.—Chemical studies of the blood made by Talbot et al. of epileptic children treated by fasting and by ketogenic diet show similar chemical changes. In patients treated by both methods, there is a marked production of ketones as evidenced (*a*) by an increased blood acetone concentration, (*b*) by a marked excretion of acetone bodies in the breath and in the urine. The alkaline reserve, as measured by the carbon dioxide combining power, is definitely lowered. There is a decrease in the blood sugar concentration. On a ketogenic diet, if an excess of carbohydrates is taken by the epileptic patient, the ketosis disappears and attacks recur. The ketosis caused by fasting and by ketogenic diet is associated with a diminution or cessation of attacks.

Anemia in New-Born.—A case of severe anemia in a newborn infant is described by Bonar, this being the fifth case so far reported. No definite cause could be found. The third day after birth the infant became somewhat pale, and in the second week she became definitely anemic. An examination of the blood made on the thirteenth day revealed: Hemoglobin content, 31 per cent (Dare); erythrocytes, 1,200,000; leukocytes, 18,000, and a color index of 1.3—. Blood smears stained with Wright's stain showed 54 per cent polymorphonuclear neutrophils; 43 per cent small lymphocytes, and 3 per cent large lymphocytes. Occasional normoblasts were seen, and there was a moderate poikilocytosis and anisocytosis. The bleeding time was four and one-half minutes and the coagulation time four minutes. The blood count of the mother showed: Hemoglobin, 80 per cent; erythrocytes, 4,200,000, and leukocytes, 10,200. After three or four months the baby gradually lost her pallor, and at the age of 1 year the blood picture was normal.

Experimental Rickets.—It is clear from the experiments made by McCollum et al. that when female rats are fed cod liver oil before mating, during pregnancy and during the first two weeks of nursing, their young are protected to a certain degree against rickets when they are later subjected to a rickets producing diet. The experiments demonstrate that the vitamin D of cod liver oil does pass into the mother's milk. Animal experiments make it clear that faulty nutrition during prenatal life and the early part of the nursing period may so debilitate the young that later a dietary regimen which one would expect to protect against rickets may fail to do so. It is strongly emphasized that a highly satisfactory diet, that is, one containing milk, fresh fruits, leafy vegetables, moderate amounts of meat and eggs, and less of the highly refined foods such as flour, cornmeal, polished rice, sugar and foods made from these, is of paramount importance for promoting the welfare of both mother and young.

Purpura Fulminans Due to Meningococcus.—In Battley's case, the patient, aged 10 months, was brought to the clinic on the morning of the day before death, at which time he appeared to be well. He was vaccinated for smallpox. The same afternoon, at about 5, it was noticed that he was not well; he had fever and chills and was restless. The manifestations of illness increased during the evening. By 10 p. m. he was acutely ill, pale and slightly cyanosed, with a temperature of 104 F. and a respiratory rate of 52. Physical examination gave negative results, except for a general hyperesthesia and distress elicited on moving the joints. The impression at the time was that of a child in an early stage of pneumonia. Early the following morning, bluish red blotches appeared in the skin at various points, particularly on the face and buttocks. These markings, obviously hemorrhages, were also present in the palpebral conjunctivas and in the mucous membranes of the mouth. On puncturing the finger to determine the bleeding time, it was found that the blood did not flow. Nystagmus appeared shortly after this, convulsions occurred and death ensued almost immediately. The total duration of the illness was twenty hours. A necropsy was made. Several small hemorrhages were present in the pleura and on the epicardium around the distribution of the coronary artery. Numerous tiny hemorrhages were present in the capsule of the thymus gland. The suprarenals were bluish with mottlings of darker purple. On section, the cortex and medulla were both a reddish purple, and the normal structure could not be identified because of the presence of much blood. Sections of the skin taken through a purpuric area showed great dilatation of the blood vessels of the corium. There was surrounding hemorrhage into the fibrous tissue and about the blood vessels in the adipose tissue. Bacterial stains, according to MacCallum's method, were made of the sections of various tissues, and in the skin and uvula gram-negative organisms having the morphology of the meningococcus were found. In the skin and in blood vessel lumina these were intracellular; in the uvula, they were both intracellular and extracellular within a moderate-sized blood vessel.

Oils and Fats in Lungs.—The six cases reported by Pinkerton have in common the occurrence in the lungs of a large amount of material of a fatty or oily nature. A positive

history of the use of fairly large quantities of some fatty or oily substance was obtained in all the cases reported. The material was probably mineral oil alone in two cases, milk fat in one case, principally egg-yolk in one case, mineral oil and cod liver oil in one case, and cod liver oil alone in one case. In most of the cases the oil was placed in the nares in the form of nose drops or was deposited there by efforts at gavage feeding.

Congenital Defect of Abdominal Muscles.—A case of congenital defect in the anterior abdominal musculature with anomalies of the genito-urinary system is presented by Ikeda and Stoesser. It is the sixteenth case on record. The condition was characterized grossly by a protruding sternum, a large, flabby, soft abdomen, a slitlike umbilicus and the undescended testes. At necropsy, the anterior abdominal wall showed a thick layer of adipose tissue but muscles were not grossly demonstrable. The bladder was hypertrophied and the diaphragm was thickened. The kidneys were unequal in size. Microscopically, no musculature was found in the lateral aspects, and only a few fragments of rudimentary muscle fibers were seen in the anterior portion of the abdominal wall. The small kidney showed fibrosis about the pelvis. The bladder showed a marked increase in fibrous tissue. The bladder and the diaphragm showed hypertrophy of the muscle tissue.

Earliest Report of Congenital Pyloric Stenosis.—Foote asserts that George Armstrong, a London physician who lived in the latter part of the eighteenth century, in 1771 reported the first case of congenital pyloric stenosis.

Cerebral Birth Palsies.—Two hundred and thirty-eight children with spastic paralysis were examined by Hempelmann in consultation with a neurologist and orthopedist and the following symptoms, in the order of their importance, were found to indicate a relatively bad prognosis: (*a*) mental deficiency, (*b*) progression of the disease, (*c*) athetosis and (*d*) ataxia. The most successful treatment was found to be peripheral neurectomy of the nerves of supply to the spastic muscles, followed by carefully supervised training which aims at restoring the proper balance between the opposed muscle groups.

American Journal of Public Health, Albany, N. Y.

17: 101-201 (Feb.) 1927

Heart Disease as Public Health Problem. D. M. Griswold, Iowa City.—p. 101.
Carbon Monoxide Poisoning in Industry. M. R. Mayers, New York.—p. 108.
Diseases of Animals Communicable to Man. V. A. Moore, Ithaca, N. Y.—p. 113.
Chicago's Program for Correction of Pasteurization Defects. G. W. Putnam, Chicago.—p. 121.
Pasteurization; Enforcement. L. C. Frank, F. J. Moss and P. E. Le Fevre, Montgomery, Ala.—p. 131.
Dairy Infection with Streptococcus Epidemicus Davis. W. D. Frost and A. M. Carr, Madison, Wis.—p. 139.
Does Infant Welfare Work Operate to Preserve Unfit? I. S. Falk, Chicago.—p. 142.
Can College Hygiene be Made Effective in Life of College Students? T. A. Storey, Stanford, Calif.—p. 148.
Fermentation Flask. G. E. Thomas, Philadelphia.—p. 174.
Convenient Inexpensive Method of Taking Blood Cultures Using Keidel Tubes. E. K. Ventre, New Orleans.—p. 174.

American Review of Tuberculosis, Baltimore

15: 137-277 (Feb.) 1927

Anatomic Structure of Tubercle from Histogenesis to Cavity. A. K. Krause, Baltimore.—p. 137.
*Onset of Tuberculosis in Man. L. Bernard, Paris.—p. 169.
*Diagnosis of Pulmonary Tuberculosis. F. von Müller, Munich.—p. 188.
*Diagnosis of Early Clinical Pulmonary Tuberculosis. F. M. Pottenger, Los Angeles.—p. 194.
Survey of Some Broad Phases of Tuberculosis. W. H. Park, New York.—p. 202.
*Tuberculosis and Housing. V. Čepulič, Zagreb, Jugoslavia.—p. 221.
Types of Tubercle Bacilli in Human Tuberculosis. L. Rabinowitsch-Kempner, Berlin.—p. 225.
Atypical Forms of Tubercle Bacillus. E. Pribram, Chicago.—p. 235.
Variability of Localization of Tuberculosis in Organs of Different Animals. IV. Cellular Factor in Susceptibility of Various Organs. H. J. Corper and M. B. Lurie, Denver.—p. 237.
*Plasma Calcium in Tuberculous Adults. E. M. Greisheimer and C. C. Van Winkle, Oak Terrace, Minn.—p. 270.

Onset of Tuberculosis in Man.—Bernard is of the opinion that until further evidence to the contrary has been brought forward, an heredity of infection must still be regarded as playing quite a negligible part in the etiology of tuberculosis, and that contagion is responsible for tuberculosis in the infant—maternal contagion in the majority of cases; contagion through other people, with whom the infant comes in contact, in exceptional instances. In every case in which an infant born of a healthy mother has become tuberculous, a careful inquiry reveals a tuberculous contact.

Diagnosis of Pulmonary Tuberculosis.—Müller discusses some fallacies of the clinical diagnosis of tuberculosis, and stresses the diagnostic value of the roentgenogram. He says that diagnosis of a primary focus is never possible by percussion and auscultation. But as every tuberculous disease produces an infiltration and a swelling of the local lymph node, a tuberculous focus should not escape detection in a roentgenogram. On the other hand, percussion and auscultation are indispensable in explaining the roentgenogram.

Early Diagnosis of Pulmonary Tuberculosis.—In suspected tuberculosis, Pottenger considers the analysis of the symptoms from the standpoint of their etiology as furnishing the most helpful data on which to base an opinion. A diagnosis of a probable active tuberculosis could be based on the presence of a hemorrhage, in which other common causes for the hemorrhage are ruled out; on pleurisy in which other common causes are fairly definitely ruled out, and on a parenchymatous roentgen-ray lesion; at the same time he would feel surer of the diagnosis if some of the symptoms of the reflex or toxic groups were present.

Tuberculosis and Housing.—Čepulič summarizes his brief review with this statement: Tuberculosis is not linked up with houses or flats; it is linked up with foci of disease.

Plasma-Calcium of Tuberculous Adults.—The results obtained by Greisheimer and Van Winkle indicate that tuberculosis in not characterized by a demineralization. Patients who regularly drink a liberal amount of milk tend to show higher calcium values than those who refuse it. The taking of cod liver oil does not markedly increase the plasma calcium of tuberculous adults. Exposure to Alpine lamp or sun does not increase the plasma calcium of tuberculous adults even when there is clinical improvement. There is no constant difference in calcium content as between the sexes; nor is there a constant age difference, although the tendency is toward lower calcium values with increasing age.

Annals of Surgery, Philadelphia

85: 161-320 (Feb.) 1927

Gas Gangrene in Civil Surgery: Six Cases. J. H. Baldwin and W. R. Gilmour, Philadelphia.—p. 161.
*Surgery of Large Arteries. E. Holman, San Francisco.—p. 173.
*Plastic Surgery. W. E. Sistrunk, Rochester, Minn.—p. 185.
Use of Lipiodol in Relation to Thoracic Surgery. C. A. Hedblom and J. R. Head, Chicago.—p. 194.
*Experimental Chronic Gastric Ulcer. C. B. Morton, Rochester, Minn.—p. 207.
*Surgical Pathology of Gallbladder. V. G. Burden, Philadelphia.—p. 239.
Gallbladder Technic. J. L. DeCourcy, Cincinnati.—p. 247.
Ulcer of Meckel's Diverticulum as Cause of Intestinal Hemorrhage. A. S. Jackson, Madison, Wis.—p. 252.
*Chills in Acute Appendicitis: Analysis of 2,841 Cases. R. Colp, New York.—p. 257.
Traumatic Appendicitis: Case. R. J. Behan, Pittsburgh.—p. 263.
*Gangrene of Bladder. W. J. Carson, Milwaukee, Wis.—p. 269.
Lipoma of Testicle: Case. C. A. Roeder, Omaha.—p. 275.
*Torsion of Intra-Abdominal Testis. J. K. Ormond, Detroit.—p. 280.
Lateral Ventral Hernia. A. McGlannan, Baltimore.—p. 284.

Surgery of Large Arteries.—Holman reports a case of ligation of the innominate artery for varicose aneurysm of the subclavian vessels. One year after operation the patient again appeared for examination. His right arm still seemed weaker than the left, but gradual improvement was taking place. Some interesting observations had been made by the patient: He perspired only on the left side of his face; the right face and right arm felt colder in cold weather than did the left; when hot or excited he felt a throbbing on the left side of his head and not on the right. On examination, a slight enophthalmos was still present, but the pupils were equal. The neck did not show any swelling or abnormal

masses. The pulsation in the right carotid and right radial arteries was weak, and followed the pulsation in the left carotid and radial vessels by a definite interval. Neither atrophy nor objective weakness of the arm muscles were present. The heart was normal. The blood pressure in the left arm was 118 systolic and 92 diastolic, and in the right arm 90 systolic and 70 diastolic. It seemed probable that a permanent cure of the aneurysm had been effected. From experimental evidence, a new principle in the simultaneous ligation of artery and vein seems admissible: Under certain circumstances it is preferable to ligate the vein proximal to the site of the arterial ligation. A coarse ligature such as a broad tape should be applied to the large arterial trunk rather than fine ligatures. The ligature should be tied so as to occlude the artery, but not to crush it.

Plastic Surgery.—Sistrunk recommends removal of scars by two or three stages; he describes an open operation for extensive laceration of the anal sphincter and a radical operation, based on the Kondoleon operation, for elephantiasis.

Experimental Chronic Gastric Ulcer.—A series of experiments performed by Morton are described in four groups. In the first, the inherent power of the normal stomach to heal was verified. In the second, out of a series of twenty experiments in which the operation for surgical duodenal drainage was performed after the method of Mann and Williamson, jejunal ulcers of subacute and chronic types were produced in 100 per cent of the experiments. In the third group, out of a series of twenty experiments in which small areas of gastric mucosa were excised and surgical duodenal drainage instituted at the same time, all areas showed delay in healing in 100 per cent of the experiments. In 50 per cent of all except the brief experiments, gastric ulcers of subacute and chronic type were produced on the lesser curvature while similar areas on the greater curvature healed. In the fourth group, out of a series of twenty experiments in which surgical duodenal drainage was instituted and followed two weeks later by the excision of small areas of gastric mucosa, all areas showed delay in healing in 100 per cent of the experiments. In 62.5 per cent of the more prolonged experiments, gastric ulcers of subacute and chronic type were produced on the lesser curvature, while similar areas on the greater curvature healed. An analysis of the conditions present and the factors operating emphasized the importance of the chemical and mechanical factors in the etiology of chronic peptic ulcer.

Surgical Pathologic Changes of Gallbladder.—The pathologic conditions of chronic cholecystitis have been studied by Burden in 112 surgical specimens, by immediate examination in the gross and in frozen sections. Chronic cholecystitis is usually not the result of an acute process, but it begins as a mild infection and inflammation of the mucosa and submucosa, and progresses deeper into the wall of the viscus where it becomes established around glands, crypts and diverticula, and between the muscle bundles. Its chronicity is fostered by the anatomic and histologic structure of the organ, which favor stasis and obstruction. Attention is directed to the frequent presence of intramural diverticula and their relation to infection, stone formation, perforation and pericholecystitis. The muscle of the gallbladder plays an active part in its normal function, and undergoes characteristic changes when the outlet of the viscus is intermittently or partially obstructed. Stones are often a complication of cholecystitis and usually an inevitable result of long continued infection, but they may also form in the early stages of inflammation. Cholecystitis is usually a primary infection, and cholcystectomy is a logical procedure because it removes the focus from which the attending and complicating lesions of cholecystitis derive their origin. Cases in which relief is not obtained by cholecystectomy are probably instances of primary hepatic or pancreatic infection in which the gallbladder has become secondarily involved, or the infection has so established itself that removal of the focus is without effect.

Chills in Acute Appendicitis.—All patients suffering from acute appendicitis should be asked whether they have had chills. The presence of a chill in the first forty-eight hours, Colp says, is not an index of the severity of the disease or the extent of the pathologic changes. A primary chill on the third day or later seems associated with abscess formation or the onset of a general peritonitis. When a chill is present, especially in gangrenous appendicitis, the possibility of pylephlebitis should constantly be borne in mind, and the appendicular mesentery should be carefully investigated for evidence of suppurative phlebitis. When chills are multiple a routine ligation or resection of the ileocolic vein should be done, preferably before the actual appendectomy. Postoperative chills are invariably due to suppurative pylephlebitis.

Gangrene of Bladder.—Accounts of one hundred and sixty-seven cases of necrosis and gangrene of the urinary bladder are collected from the literature by Carson. Six new cases of gangrene of the bladder are reported.

Torsion of Intra-Abdominal Testis.—Sis cases of torsion of an intra-abdominal testis are now on record. In three, the testis was the seat of a malignant tumor, and in one of the others it had previously been replaced in the abdomen by operation. In two, including the case reported by Ormond, complicating circumstances were absent, except the failure to descend. In only one case was a definite diagnosis made before operation.

Archives of Internal Medicine, Chicago

39: 163-316 (Feb.) 1927

Determination of Bronchospasm in Guinea-Pig. K. K. Koessler and J. H. Lewis, Chicago.—p. 163.
*Demonstration of Arterial Constriction in Vitro. J. H. Lewis and K. K. Koessler, Chicago.—p. 182.
*Pharmacodynamic Actions of Bacterial Poisons. K. K. Koessler, J. H. Lewis and J. A. Walker, Chicago.—p. 188.
*Spectrophotometric Analysis of Blood Serum. I. T. B. Magath and C. Sheard, Rochester, Minn.—p. 214.
*Functional Diastolic Murmurs and Cardiac Enlargement in Severe Anemias. B. Goldstein and E. P. Boas, New York.—p. 226.
*Sickle Cell Anemia: Splenectomy. E. V. Hahn and E. B. Gillespie, Indianapolis.—p. 233.
*Basal Metabolism in Chronic Myelogenous Leukemia. M. C. Riddle and C. C. Sturgis, Boston.—p. 255.
*Biliary, Pancreatic and Duodenal Studies. L. Martin, Baltimore.—p. 275.
*Physiologic Effect of Massage. F. A. Cajori, C. Y. Crouter and R. Pemberton, Philadelphia.—p. 281.
Acoustics of Bronchial Breath Sounds. Application to Phenomena of Auscultation as Heard in Lobar Pneumonia. G. Fahr, Minneapolis.—p. 286.
*Relation of Hemoglobin, Cell Count and Cell Volume to Erythrocyte Sedimentation Reaction. E. H. Rubin and N. N. Smith, New York.—p. 303.

Demonstration of Arterial Constriction in Vitro.—Lewis and Koessler devised a method of studying the reaction of isolated blood vessels in which the arterial preparation is a continuous band of tissue representing a considerable length of artery, so prepared that the circular musculature is made to lie perpendicularly; when it contracts, a shortening of the preparation occurs. This method is sensitive to vasoconstrictors. The authors have used the method extensively to study the vasoconstrictor action of bacterial poisons.

Pharmacodynamic Actions of Bacterial Poisons.—Filtrates from bacterial growth were studied by Koessler et al. for their pharmacologic action on arteries and bronchi. It is suggested that the bacterial poisons studied may be involved in the production of certain forms of bronchiolar spasm in man (bacterial asthma), and others in the production of certain forms of arterial hypertension.

Spectrophotometric Analysis of Blood Serum.—Magath and Sheard show by spectrophotometric examinations that yellow pigment in the blood serum is bilirubin in normal persons, and in those suffering from malaria, pernicious anemia, hemolytic icterus and jaundice due to obstruction of bile. The degree of bilirubin varies, so that the order named indicates the relative amounts. If the bilirubins are different, it is not shown in the type of spectrophotometric curve. Usually one hour after transfusion in cases of pernicious anemia, the serum shows an increase in bilirubin. Any process resulting in too rapid destruction of blood or too slow excretion of bile results in retention of bilirubin. Combinations of both factors probably play a part in the clinical picture and the spectral analysis. Fundamentally, all jaundice is hemolytic.

Cardiac Symptoms in Severe Anemias.—Goldstein and Boas assert that cardiac dilatation, often accompanied by cardiac hypertrophy, is a common observation in patients

with severe anemias. Diastolic murmurs resembling those of aortic insufficiency are heard in about 10 per cent of patients with pernicious anemia. These are caused not by organic valvular disease but by a relative insufficiency of the aortic valve. In a smaller number of anemic patients, presystolic murmurs may be present in the absence of mitral stenosis. In patients with severe anemia, the presence of cardiac enlargement, a mitral configuration of the heart, and a diastolic or presystolic murmur does not warrant the diagnosis of organic valvular disease.

Splenectomy in Sickle Cell Anemia.—The case reported by Hahn and Gillespie is said to be the fourteenth to be reported in detail, the first to be reported from Indiana, and the first to be reported in which the patient was treated by splenectomy. The patient was 4 years of age. The patient's symptoms were all explicable on the ground of severe anemia, except for attacks of epigastric pain which were attributed to pathologic change in the spleen. The laboratory data confirmed the clinical diagnosis of severe anemia, and established the presence of acholuric jaundice of hemolytic origin. The tremendous rate of blood destruction was revealed by the enormous output of urobilinogen and urobilin (estimated together). In a wet smear culture of the patient's blood forty-eight hours after preparation, practically all the red corpuscles were sickle shaped. There was apparent colonization of the corpuscles around granular areas which had not been reported previously. Following removal of the spleen, immediate convalescence was uneventful. Clinical improvement later was rapid. The patient's mother and two of his sisters were shown to have "latent sickle cell anemia." A laboratory test for the sickle cell trait is described. The terms "drepanocyte," "drepanocytemia," and "drepanocytic anemia" are proposed to replace, respectively, the terms "sickle cell," "latent sickle cell anemia," and "active sickle cell anemia."

Basal Metabolism in Chronic Myelogenous Leukemia.—Some of the points made by Riddle and Sturgis are: There appears not to be any fixed relationship between the basal metabolic rate and the degree of anemia. The basal metabolism is usually high when the percentage of the young myeloid cells is great, and especially when their degree of immaturity is marked. Intensive daily studies showed that there appeared to be an inverse relationship between the minor fluctuations of the basal metabolic rate from day to day, on the one hand, and fluctuations of the number of white blood cells and the percentage of immature forms, on the other hand. The general level of the basal metabolic rate, however, depended on the degree of elevation of the total white blood cell count and of the percentage of immature myeloid cells. In addition to the commonly assumed causes of the elevation of the metabolism in myelogenous leukemia, it is suggested that the increased rate of destruction of the white blood cells may be a factor of importance.

Hydrogen Ion Concentration of Duodenal Contents.—The hydrogen ion concentration of successive portions of duodenal contents, following stimulations with magnesium sulphate, was studied by Martin. He says that after an instillation of magnesium sulphate through a tube directly into the duodenum, the resultant secretion is usually slightly acid. Usually, the duodenal contents tend to become more acid the longer the tube is left there. There may be periods of neutrality or even alkalinity. The normal duodenal contents are nearly neutral, but under any digestive procedure they are likely to become acid, and the lowness of the p_H is probably related to the tone of the pyloric sphincter: whether it is to be constantly acid or whether periods of acidity and neutrality will alternate. Even in gastric achylia the duodenal contents are at times acid. Active pancreatic enzymes are found, however, before this chemical change is brought about. They are found in the alkaline fraction.

Physiologic Effect of Massage.—It is concluded by Cajori et al., from experiments, that massage has no immediate or great influence on general metabolism per se. The cumulative effect which massage nevertheless exercises on various metabolic processes probably lies in its mechanical influence on the circulation of the parts concerned.

Erythrocyte Sedimentation Reaction.—The erythrocyte sedimentation reaction was studied by Rubin and Smith on herudinized blood. A close relationship was found to exist between the erythrocyte sedimentation reaction and the cell volume as determined by hematocrit, the lower the cell volume, the greater being the rapidity of sedimentation. By artificially decreasing the cell volume, normally sedimenting blood could be made to settle more rapidly. Conversely, by increasing the cell volume, rapidly sedimenting blood could be made to approach normal limits. Comparative results with herudinized blood showed that the use of 3.8 per cent sodium citrate solution as an anticoagulant in the dilution of 1:4 of blood gave inconstant readings in the sedimentation reaction. These changes seemed referable to the effect of the diluent on the plasma and the cells.

Arch. of Pathology and Laboratory Medicine, Chicago

3: 161-360 (Feb.) 1927

Anastomosing Bronchi in Human Lung. W. S. Miller, Madison, Wis.—p. 161.
*Pygopagus Twins. History and Necropsy Report of Rosa-Josepha Blazek. M. A. Perlstein and E. R. LeCount, Chicago.—p. 171.
Infectious Sarcoma ("Venereal Granuloma") of Vagina in Dogs. E. Novak and R. G. Craig, Baltimore.—p. 193.
*Postcaval Ureter. V. C. Jacobson, Albany, N. Y.—p. 203.
*Glucose Tolerance in Patients with Vagotonia. J. M. Nielsen and W. B. Lewis, Battle Creek, Mich.—p. 212.
*Alcohol Content of Human Brain. Relation to Intoxication. A. O. Gettler and A. Tiber, New York.—p. 218.
Verifying Complete Colorimetric Calculations. R. F. McCracken, K. E. Harman and E. Passamaneck, Richmond, Va.—p. 227.
Technic of Examination of Feces for Amebas and Other Intestinal Protozoa. H. Albert, Reno, Nev.—p. 235.
New Glass Chamber for Schultz-Dale Uterine Strip Method. J. H. Lewis, Chicago.—p. 237.
Experiments with Cellophane as Sterilizable Dialyzable Membrane. F. L. Wilson, Vancouver, B. C.—p. 239.
Relation Between Histologic Picture and Prognosis of Tumors. A. Plaut, New York.—p. 240.

Pygopagus Twins.—The details of the necropsy of the Blazek twins is given by Perlstein and LeCount, and a review is made of the other articles which the authors were able to find regarding them.

Postcaval Ureter.—Jacobson records two examples of an abnormality of the ureter in man, which apparently has not been described in this country; i. e., a ureter which, in its course, passes between the inferior vena cava and the aorta. One case, in a man, caused unilateral hydronephrosis; the other occurred in a year old infant, who also had many other congenital defects.

Glucose Tolerance in Vagotonia.—Twenty-three cases of vagotonia were studied by Nielsen and Lewis, and special attention was given to the glucose tolerance. The only definite statement made concerning the type of glucose tolerance curve in persons with vagotonia is that a low point is reached somewhere. The average in this series was 66.7 mg. per hundred cubic centimeters, with a range from 41 to 83 mg. per hundred cubic centimeters. The "hypoglycemic reaction" is not necessarily coincident with hypoglycemia. The degree of reaction bears no direct relation to the depth of the glucose tolerance curve.

Alcohol Content of Brain.—More than 6,000 human brains have been analyzed by Gettler and Tiber for alcohol during the last five years. The brains of persons who have had no alcoholic beverages for at least ten days prior to death showed an alcohol content of from 0.0005 to 0.0025 per cent. The alcohol content of the brains of persons who have consumed alcoholic beverages ranges from 0.005 to 0.6 per cent. In all those cases in which there was an alcoholic content of the brain below 0.1 per cent, the patients had been normal in all their actions, as determined by a history in each case before death. In all cases in which there was an alcoholic content of from 0.1 to 0.25 per cent, the patients had shown some physiologic disturbance, such as increased aggressiveness, or more or less loss of a sense of responsibility. When the alcohol content of the brain reaches more than 0.25 per cent, running as high as 0.6 per cent, the person's equilibrium becomes unbalanced. The degree to which a person is influenced depends not on the quantity of alcohol consumed but on the quantity of alcohol in the brain at the time.

Boston Medical and Surgical Journal

196: 341-380 (March 3) 1927

*Successful Operation in Eight Cases of Pulsion Diverticula of Esophagus. F. H. Lahey, Boston.—p. 341.
Compulsory Vaccination of School Children. S. B. Woodward, Worcester, Mass.—p. 351.
Profession of Nursing. G. H. Bigelow, Boston.—p. 355.
Case of Gumma of Breast. W. P. Coues, Boston.—p. 357.

Pulsion Diverticula of Esophagus.—Lahey says that the two-stage procedure and local anesthesia render removal of esophageal pulsion diverticula so safe that they should not be permitted either to attain large size or to produce obstructive symptoms before operation is sought. In the eight cases reported, there was no mortality.

Journal of Infectious Diseases, Chicago

40: 389-468 (March) 1927

*Bacteriologic Study of Pulmonary Embolism. E. C. Rosenow, Rochester, Minn.—p. 389.
Resistance of Different Concentrations of Bacteriophage to Ultraviolet Rays. R. Fisher and E. B. McKinley, New York.—p. 399.
Bacteriologic Studies on Bioluminescence: I. Y. Yasaki, Tokyo, Japan. —p. 404.
*Etiology of Measles. P. H. Long and A. M. Cornwell, Boston.—p. 408.
*Intracellular Proteins of Bacteria. II. Globulins as Indicators of Interspecies Relationships. C. I. Nelson, Chicago.—p. 412.
*Effect of Gentian Violet and Mercurochrome on Endomyces Albicans. E. B. Clark, San Francisco.—p. 423.
*Food Accessory Substances (Vitamins) and Tubercle Bacilli: I. N. Uyei, Denver.—p. 425.
*Id. II. N. Uyei, Denver.—p. 433.
*Necessity of Carbon Dioxide for Growth of Bacteria, Yeasts and Molds. G. E. Rockwell and J. H. Highberger, Cincinnati.—p. 438.
*Metaphen (4-Nitro-3, 5-Bisacetoxymercuri-2-Cresol); Bactericidal Properties. G. W. Raiziss and M. Severac, Philadelphia.—p. 447.
Purification of Abortin. P. Schoenholz and K. F. Meyer, San Francisco. —p. 453.

Bacteriologic Study of Pulmonary Embolism.—By means of special methods, a diplostreptococcus identical with the one previously obtained in similar cases has been isolated by Rosenow in each of five recent cases of postoperative pulmonary embolism, and in one case of portal thrombosis, and has been demonstrated microscopically within the thrombus or embolus or infarcted areas in all but two of twenty-five additional cases. Rosenow feels that the conclusion seems warranted that this diplostreptococcus is the common cause of postoperative and nonoperative massive thrombosis, leading to fatal pulmonary embolism, and perhaps of closely allied conditions, such as infarction of the heart or brain. The immunity found to exist in animals from ten to fourteen days after a series of injections suggests the possibility of a means of prevention through specific inoculation with a vaccine prepared from this organism.

Etiology of Measles.—In a carefully selected group of measles patients, an attempt has been made by Long and Cornwell to isolate a micrococcus from the blood stream. Forty-seven blood cultures were taken from twenty-six patients with measles. In twelve of these patients the blood cultures were taken during the preeruptive stage and later, after the rash had appeared. In all of the patients blood cultures were obtained during the early period of the rash. Bacterial growth was found in four flasks at the end of seventy-two hours. These growths were considered to be the result of contamination. No toxin-producing green streptococci were isolated.

Intracellular Proteins of Bacteria.—Globulins obtained by Nelson from seven species of the colon-typhoid group of bacteria were effective antigens for the production of precipitins in rabbits. These globulins are highly specific for their homologous antiserums. They also possess a specificity for heterologous serums which is quantitatively proportional to the genetic relationship which the heterologous derivative bears to the homologous one. The data of complete direct and cross precipitin titrations of the bacterial globulins and their antiserums, when analyzed objectively and statistically, yield a sequence of interspecies relationship.

Effect of Gentian Violet and Mercurochrome on Endomyces.—Clark asserts that gentian violet completely inhibits the growth of the mycelial and yeast forms of *Endomyces albicans* in dilutions up to 1:100,000, and partially inhibits it in dilutions to 1:400,000. A dilution of 1:10,000 of mercurochrome does not cause inhibition in the growth of the mycelia of yeast forms of *Endomyces albicans.*

Vitamins and Tubercle Bacilli.—The results obtained by Uyei seem to indicate that the "bios" theory of Wildiers for yeast is not applicable for tubercle bacilli as an explanation of the failure of their growth when thinly seeded on artificial mediums.

Vitamins and Tubercle Bacilli.—Uyei states that cod liver oil concentrate ("Oscodal" of Funk and Dubin) known to be rich in fat soluble A vitamin and the antirachitic vitamin exerts an indifferent action on the growth of tubercle bacilli. Conforming with the results of other investigators with other bacteria, substances rich in vitamin B, namely, Harris' yeast vitamin, orange juice, tomato juice and cabbage juice, exert a pronounced stimulating effect on the growth of tubercle bacilli. With the technic used in these studies, the acceleration of growth is easily discernible in concentration of 1:1,000 for Harris' yeast vitamin, 1:100 for tomato juice and orange juice, and 1:20 for the cabbage juice.

Bacterial Need for Carbon Dioxide.—The opinion is expressed by Rockwell and Highberger that all bacteria, yeasts and molds require carbon dioxide for their growth, and that the gas is used as a source of carbon.

Bactericidal Properties of Metaphen.—Raiziss and Severac assert that metaphen possesses unusually high bactericidal properties, especially when left in contact with the microorganisms for more than one hour, in which respect it is more effective than any of the other germicides they have employed. It is almost four times less toxic when injected intramuscularly. The toxicity when given by mouth is also comparatively low. It is nonirritating in therapeutic dilutions. Experimental work on animals, as well as clinical observations, confirm its high efficiency when employed as a bactericide.

Philippine Islands Medical Association Journal, Manila

7: 1-26 (Jan.) 1927

Urethrolithiasis. C. D. Franco, Manila.—p. 1.
Cholera Cases Admitted to San Lazaro Hospital from September 1 to November 30, 1925. C. Gavino, Manila.—p. 3.
*Relation of Agglutinins Produced in Blood of Vaccinated Filipino Mothers and in Blood of Their Unvaccinated Nursing Infants. L. Lopez-Rizal, M. V. Argüelles and H. Lara, Manila.—p. 7.

Agglutinins in Blood of Vaccinated Mothers and Unvaccinated Nurslings.—The results of typhoid vaccination tests made by Lopez-Rizal et al. in Filipino mothers show that, when there is absence of typhoid agglutinins at a certain dilution in the mother's serum, there is also in the great majority of cases a corresponding absence, at the same dilution, in the unvaccinated nursing infant's serum. When agglutinins are present in the vaccinated mother's serum, almost invariably they are also found in the unvaccinated nursing infant's serum. It is believed, therefore, that active immunization of the mother after the birth of her infant will cause the appearance of immune bodies in the nursing infant.

Philippine Journal of Science, Manila

32: 1-101 (Jan.) 1927

*Free Toxin in Blood During Course of Tetanus Toxemia. K. Yasuyama and O. Schöbl, Manila.—p. 29.
*Anilides and Toluides of Chaulmoogric Acid. P. Herrera-Batteke, Manila.—p. 35.
Imperfect Hermaphroditism in Flowers of Hibiscus, Removed by Surgical Operation. N. B. Mendiola, Los Baños, Laguna.—p. 65.

Free Tetanus Toxin in Blood.—In one case of human tetanus and in experimental animals, Yasuyama and Schöbl were able to prove that tetanus toxin can be demonstrated in the blood in the course of tetanus toxemia. After two and a half months of illness, 5 cc. of the patient's full blood contained at least one minimal lethal dose for a guinea-pig of 300 Gm. body weight. A guinea-pig of 820 Gm. weight which received 500 minimal lethal doses for a standard weight guinea-pig, harbored, within twenty-four hours after the

injection, enough free tetanus toxin in 2 cc. of its blood to kill a 235 Gm. guinea-pig within forty-eight hours.

New Chaulmoogric Acid Derivatives.—The following new derivatives of chaulmoogric acid have been prepared by Herrera-Batteke: chaulmoogranilide, chaulmoogra para bromanilide, ortho chaulmoogratoluide, meta chaulmoogratoluide and para chaulmoogratoluide.

Rhode Island Medical Journal, Providence

10: 1-16 (Jan.) 1927

William Williams Keen. W. Pickles, Providence.—p. 1.

Southwestern Medicine, Phoenix, Ariz.

11: 1-54 (Jan.) 1927

Industrial Lead Poisoning in Smelting Process of Lead Ores. S. D. Swope, Chihuahua, Mexico.—p. 1.
Evaluation of Surgical Risks from Standpoint of General Practitioner. H. R. Carcon, Phoenix.—p. 3.
Technic in Gallbladder Removal. H. A. Miller, Clovis, N. M.—p. 12.
Foreign Bodies in Eye. J. B. Gray, El Paso, Texas.—p. 13.
Influence of Personality and Economic Condition of Patient on Results of Treatment. E. C. Prentiss, El Paso, Texas.—p. 17.
Thrombo-Angiitis Obliterans. E. A. Duncan, El Paso, Texas.—p. 20.
Arthritis. O. H. Brown, and E. H. Brown, Phoenix.—p. 22.
Case of Status Lymphaticus. J. A. Rawlings, El Paso, Texas.—p. 33.

United States Veterans' Bureau Medical Bulletin, Washington, D. C.

3: 107-196 (Feb.) 1927

Analysis of Neuropsychiatric Cases Considered by Central Board of Appeals. F. E. Leslie.—p. 117.
Parole of Mental Patients. H. G. Clarke.—p. 124.
End-Results in Pulmonary Tuberculosis: Five Hundred Cases. W. J. Marcley.—p. 128.
*Diathermy in Pulmonary Infarction. M. H. Goodman and H. S. Hoffman.—p. 134.
*Diagnosis and Treatment of Cardiac Disorders. F. B. Morrissey.—p. 139.
*Urease Method of Urea Nitrogen Determination in Blood. N. Novick. —p. 144.
Construction of Cast Gold Crown. F. G. Canine.—p. 147.
*Removal of Focal Infection in Treatment of Tuberculous Patients. D. T. Baker.—p. 149.

Diathermy in Pulmonary Infarction.—A case is reported by Goodman and Hoffman in which definite pulmonary infarction was found, and, in spite of important complicating processes in both sides of the chest, which were undoubtedly productive of marked increase in the vascular pressure of the lesser circulation, with resultant detrimental effect on the myocardium (as evidenced by repeated mild cardiac depressions, aggravated on one occasion by what appeared to be in all respects a cardiac embolus), definite resolution was effected in a pulmonary process which involved an area of the right lung extending from the sixth to the eighth ribs.

Use of Quinidine in Cardiac Disorders.—It is asserted by Morrissey that quinidine sulphate, 2 grains (0.13 Gm.), four times a day, will stop auricular fibrillation and auricular flutter in about 50 per cent of cases. It seems to work mostly on acute cases of short duration. It should not be used when there is any history of embolism, as there have been several sudden deaths following the use of it, supposedly from embolism. It has not been definitely established that quinidine will do any more than digitalis. In auricular fibrillation and flutter, digitalis is the classic drug.

Modification of Urease Method for Determination of Urea Nitrogen.—In the determination of urea nitrogen in the blood by the urease method, there is produced a greenish discoloration in the unknown sample which frequently renders colorimetric comparison impossible. This discoloration is especially pronounced in specimens of blood with low urea nitrogen content, making such specimens difficult of analysis. It has been found to be absent in specimens of blood showing urea nitrogen retention. Novick describes a modification of the routine technic. He uses equal volumes of the nitrogen standard and the unknown, which is said to restore the usual color and make possible colorimetric determination.

Danger of Tooth Extraction in Tuberculosis.—Baker emphasizes the danger of wholesale extraction of teeth in tuberculous persons, and urges teamwork between the dentist and the physician.

Virginia Medical Monthly, Richmond

53: 701-760 (Feb.) 1927

Kidney Tumors: Twenty-Five Cases. J. H. Neff, University.—p. 701.
Correlation of Lesions of Genitalia. T. L. Driscoll, Richmond.—p. 704.
*Blood in Scarlet Fever. J. W. Lindsay, E. C. Rice and M. A. Selinger, Washington, D. C.—p. 709.
Tumors of Breast. J. S. Horsley, Richmond.—p. 713.
Gynecology for General Practitioner. S. Leigh, Norfolk.—p. 719.
*Aseptic Intestinal Resection. C. Williams, Richmond.—p. 722.
Roentgen-Ray Treatment of Skin Cancer and Allied Conditions. F. M. Hodges, Richmond.—p. 727.
Exercise and Posture in Relation to Disease. C. L. Hall, Washington, D. C.—p. 729.
Diarrheas of Infancy. J. W. Reed, Norfolk.—p. 732.
Orthopedic Surgery as Applied to Crippled Child. B. H. Kyle, Lynchburg.—p. 735.
Hunner's Ulcer: Two Cases. J. M. Fadeley, Washington, D. C.—p. 737.

Blood in Scarlet Fever.—Lindsay et al. assert that the blood picture is characteristic of the disease, giving a marked leukocytosis and gradually increasing eosinophilia which may be of diagnostic value. The chemical examination of the blood during the acute stage of the disease usually shows a nitrogen retention which may be of value in determining the degree of toxicity of the disease, but does not aid in anticipating kidney changes. The presence or absence of immune bodies in the blood of any individual can be determined by means of the Dick test. The increase in antibodies produced can be measured by the same test. The presence of immune substances in the actively immunized can be made use of in the diagnoses of scarlet fever; viz., the rash extinction test (Schultz-Charlton reaction).

Aseptic Intestinal Resection.—Williams favors the end-to-end suture of bowel after resection by the aseptic method of Kerr, except when the caliber of the bowel is small.

Wisconsin Medical Journal, Milwaukee

26: 57-128 (Feb.) 1927

Periodic Physical Examinations in Children of Preschool Age. J. G. Taylor, Milwaukee.—p. 57.
Fractures of Skull. E. Sachs, St. Louis.—p. 60.
Treatment of Cancer of Mouth and Tongue. F. B. McMahon, Milwaukee.—p. 65.
Roentgen Rays and Radium in Fight Against Cancer. G. E. Pfahler, Philadelphia.—p. 75.
Parkinsonism. J. E. McLoone, La Crosse.—p. 80.
*Dick Reaction in Scarlet Fever. R. L. Cowles and L. Milson, Green Bay.—p. 82.
Erosive Balanitis: Case. H. E. Kasten, Beloit.—p. 85.
Diathermy in Medical Practice. F. Nagelschmidt, Berlin.—p. 86.

Dick Reaction in Scarlet Fever.—Dick tests were made by Cowles and Milson on eighty-two persons divided into three groups. The first group consisted of twenty-eight persons from infancy to adult age. Nineteen positive reactions were obtained. Immunizing doses of scarlet fever toxin were given in all positive cases. About two weeks after the last injection, the intracutaneous tests were repeated to determine the degree of developed immunity to scarlet fever. There were nine positive Dick tests. A fourth injection of 5,000 skin test doses was then given to those whose immunity was not complete. About two weeks after this injection, immunity was again checked by the Dick test. This time three positive tests were obtained. The second group consisted of thirty-nine persons of about the same ages as the first group. In this group there were nineteen positive tests. Immunizing injections were given to all patients showing susceptibility to scarlet fever. About two weeks following the last injection, eight positive tests were obtained. A fourth injection of 5,000 skin test doses of scarlet fever toxin was given to those still showing susceptibility to scarlet fever. After two weeks immunity was again checked by another intracutaneous test. Two positive skin reactions were obtained. The third group consisted of young women in various stages of pregnancy. There were seven positive Dick reactions. Immunization of this group was not considered advisable. Positive Dick tests were obtained in 54.8 per cent of the total number of cases tested, and in 64.3 per cent of the cases in which a history of scarlet fever was not given. Of the adults, 50 per cent gave positive Dick tests, as against 76.7 per cent of infants up to 2 years of age. In infants up to 6 months of age 50 per cent gave positive tests.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Anesthesia, Manchester

4: 113-176 (Jan.) 1927

Pioneers of Modern Anesthesia: III. Sir Frederic William Hewitt. J. Bloomfield.—p. 116.
Teaching of Anesthetics in Medical Schools. D. W. Buxton.—p. 124.
Instruction in Anesthesia: In Graduate School of Medicine of University of Pennsylvania. E. W. Beach.—p. 132.
Id.: New York Post Graduate Medical School and Hospital. T. D. Buchanan.—p. 134.
Id.: John Hopkins Medical School, Baltimore. E. M. K. Geiling and Baise.—p. 136.
Provision of Anesthetic Service. J. S. Ross.—p. 141.
Simple Portable Apparatus for Therapeutic Administration of Carbon Dioxide. H. W. Davies.—p. 148.
Regional Anesthesia in European Clinics. C. A. O'Dén.—p. 154.
Stricture of Urethra (Use of Sacral Anesthesia). W. S. Pugh.—p. 160.
Spinal Anesthesia in Five Hundred and Thirty-Six Cases. M. F. Campbell.—p. 162.
Brachial Plexus Block. G. Labat.—p. 174.

British Journal of Surgery, Bristol

14: 385-555 (Jan.) 1927

Spencer Wells' Forceps. D'A. Power.—p. 385.
*Acute Pancreatitis. D. Chamberlain.—p. 390.
*Leptomeningiomas (Endotheliomas) of Spinal Cord. J. R. Learmonth.—p. 397.
*Ranula. D. C. L. Fitzwilliams.—p. 472.
Reconstructive Surgery of Hip. E. W. Hey Groves.—p. 486.
*Exploratory Laparotomy and Appendicectomy in Chronic Amebic Dysentery. V. Coates and E. W. Hey Groves.—p. 518.
*Carcinoma of Ileum. J. J. Robb.—p. 521.
*Cancer Causes Intestinal Obstruction. C. P. G. Wakeley.—p. 525.
*Strangulated Hernia in Infant of Five Days. S. J. H. Griffiths.—p. 527.
Case of Strangulated Obturator Hernia. G. L. Walker.—p. 528.
*Late Results After Operation for Exstrophy of Bladder. T. A. Robinson and G. S. Foulds.—p. 529.
Case of Encrusted Cystitis. A. E. Roche.—p. 531.
Case of Multiple Urinary Lesions. A. E. Roche.—p. 533.
*Result in Case of Fascial Urethral Graft Thirteen Years After Operation. R. J. Willan.—p. 535.
Excision and Restoration of Upper Lip. H. P. Pickerill.—p. 536.
Case of Congenital Nevus of Forefinger and Thumb. L. R. Braithwaite.—p. 538.

Analysis of Acute Pancreatitis.—Twenty-one cases of acute pancreatitis, one in every 5,000 surgical admissions, are analyzed by Chamberlain. Eight patients died, a mortality of 38 per cent. Two out of three that were not operated on died. In thirteen cases the treatment was drainage of the lesser sac. Five of these patients died, a mortality of 38.5 per cent. In the remaining five cases in which operation was performed, in addition to drainage of the lesser sac, a tube was put into the gallbladder. One of these patients died, so that by this method the mortality is brought down to 20 per cent. Nine patients in the series gave a history of recurrent attacks of abdominal pain in the upper part of the abdomen and continuing for a number of years. For two or three weeks these attacks had been more severe, and had culminated in the real acute attack. One patient who recovered had had typhoid. Postmortem examination in six of the eight fatal cases showed single cholesterol stone in two cases, multiple small stones in one, no stones in two and congested gallbladder in one. Obstruction at the ampulla of Vater was not noted in any case.

Leptomeningioma of Spinal Cord.—Learmonth's thesis is based on sixty cases. The location of these tumors was: cervical, eight; dorsal, thirty-eight; lumbosacral, ten, conus and cauda, four. There was one anterior, eleven anterolateral, thirty-eight posterolateral and seven posterior tumors.

Ranula.—The conclusion is drawn by Fitzwilliams that a ranula may arise in the salivary glands, including Blandin's gland, and in the mucous glands, but nowhere else. There is nothing to favor the view that Fleischmann's bursa exists, and there is nothing to connect a ranula with the supposed survival of a cervical sinus.

Abdominal Incubation Centers and Amebic Dysentery.—Coates and Groves suggest that the possibility of a specifically infected gallbladder or appendix acting as a release station for amebas should be considered in cases of amebic dysentery not yielding to medical treatment. There is evidence that, in certain picked cases of this type, removal of such incubation centers has mitigated the course of the disease. Laparotomy is the operation of choice, and the surgeon should be given a free hand to perform cholecystostomy, appendicostomy or colostomy, in addition to appendicectomy as occasion seems to warrant.

Carcinoma of Ileum.—In Robb's case, the tumor was situated at about the middle of the ileum. It was a rapidly growing, highly cellular, spheroidal cell carcinoma, growing much more toward the lumen than along the walls of the intestine. The tumor was removed. The patient was alive and well four years later.

Carcinoma of Ileum Causes Obstruction.—Wakeley reports a case of columnar cell carcinoma of the ileum about 1½ inches (4 cm.) from the ileocecal valve. There was not a sign of growth in the glands at the root of the mesentery or in those in the ileocecal angle. The last 6 inches (15 cm.) of the ileum, the cecum and the lower part of the ascending colon were excised. Three years later the patient was in good health.

Strangulated Hernia in Infant.—The case reported by Griffiths supports Fraser's theory that the early incidence of a strangulation is related to the attempt at natural closure of the processus vaginalis. The local evidence of the attempt is a fibrous ring which is the constricting factor producing the strangulation.

Result of Operation for Exstrophy of Bladder.—Robinson and Foulds report the case of a man, aged 23, who was born with ectopia vesicae. When he was 4 years of age, the late Dr. George Peters transplanted the ureters by the extraperitoneal method into the rectum, and the remainder of the bladder wall was ablated. Since then he has had fairly good control of the general bowel content, but occasionally the sphincter ani would fail to retain the urine. He became ill at 23. His temperature was 101.2 F. There was a mass in the right loin which extended forward to the abdominal wall. It was very tense, painful and tender. There was moderate edema of the back over the mass. The heart and lungs were apparently normal. The leukocyte count was 18,000. Under general anesthesia, about a quart of foul pus was evacuated from the perirenal tissue and from the kidney. The pelvis of the kidney, which was open, contained calculous material. The ureter was dilated to about ¾ inch (2 cm.) in diameter, and contained soft calculous masses. Two drainage tubes were inserted, and the wound was closed. The patient is now in fairly good health despite a small sinus, which persists.

Use of Fascial Urethral Graft.—In the case cited by Willan, the plastic operation done, Feb. 5, 1913, consisted of: (1) destruction of the membranous urethra, and (2) reconstruction of a new portion of urethra, 1¼ inches (3 cm.) long. A graft from the fascia lata was used, and it had to be carried around the lower margin of the triangular ligament. In May, 1926, the patient died suddenly from a condition entirely unconnected with the urinary passage. The operation can be regarded as a complete success, for the fascial graft amply served its purpose until the patient died, more than thirteen years afterward.

British Medical Journal, London

1: 221-268 (Feb. 5) 1927

*Epilepsies and Life Assurance. S. A. K. Wilson.—p. 221.
*Thrombo-Angiitis Obliterans. W. I. de C. Wheeler.—p. 225.
*Thrombo-Angiitis Obliterans with Syphilis. R. P. Smith and D. W. Patterson.—p. 227.
Lipiodol in Pulmonary Diagnosis. F. G. Chandler and J. M. Young.—p. 228.
*Volvulus Neonatorum. N. M. Dott.—p. 230.
Hematuria Following Insulin Injections: Three Cases. J. Henderson.—p. 231.
*Anerobic Streptococcus. C. E. Jenkins.—p. 231.
*Excision of Large Angioma of Liver in Diabetic. H. H. Brown.—p. 232.
Occupational Swelling. W. H. Ogilvie.—p. 232.
*Temperature in Pulmonary Tuberculosis. T. M. Allison.—p. 233.
*Traumatic Ulceration of Aorta. J. Simons.—p. 233.
Melena Neonatorum. J. G. Grant.—p. 233.

Epilepsies and Life Assurance.—In Wilson's opinion, existing tables purporting to give mortality statistics in regard to epilepsy are meaningless and valueless, since the epilepsy they refer to is undifferentiated. Such as they are, they do not substantiate the view that the life of epileptic persons is short. Wilson says that if epilepsy of the so-called idiopathic variety does not reveal itself before the age of 21, the chances are greatly against its subsequent appearance in proportion as the years pass.

Thrombo-Angiitis Obliterans.—The outstanding features in the history of the two cases reported by Wheeler were: 1. Neither patient was a Jew. 2. Neither had syphilis. 3. Both had served abroad. 4. Both were heavy cigarette smokers. 5. The first patient lost portions of all four limbs during a period of about ten years. 6. The second case was of the acute variety, and the patient lost the left leg above the knee within a few weeks of the first attack of pain in his calf. Leriche's periarterial sympathectomy failed in both cases. Wheeler says that for the relief of thrombo-angiitis obliterans the operation should now be abandoned.

Thrombo-Angiitis Obliterans with Syphilis.—The symptoms in the case reported by Smith and Patterson were characterized by pain, coldness of the feet, ischemia, intermittent claudication and erythromelalgia, evidence of trophic disturbances shown by ulceration of the leg and gangrene of the toe, and, at a later date, extension of the disease to the other limb. The blood gave a strong positive Wassermann reaction, and the urine did not contain sugar. Evidence of tuberculosis was not found in the lungs or elsewhere in the body. The affected leg was amputated about a hand's breadth above the knee joint. There was little bleeding from the stump, and recovery was uninterrupted. The lumen of the femoral artery appeared to be practically occluded. The affected peripheral vessels—the popliteal and anterior and posterior tibial arteries—showed completely organized thrombi in their lumina, some of which were partially recanalized. Marked histologic changes occurred in all the coats. The histologic appearances in the present case show a condition of thrombo-angiitis obliterans with an associated phlebosclerosis or phlebothrombosclerosis, which would appear, in view of the positive Wassermann reaction and the exclusion of other causes, to be of syphilitic nature.

Volvulus Neonatorum.—Dott made this diagnosis for the first time in the case he reports, and confirmed it at operation. The baby took the breast well until the fourth day, when she had a sudden fit of crying, holding of the breath, and drawing up of the legs. From this time she refused to suck. She vomited with increasing frequency, at first clear fluid, then yellowish, and then dark green flaky material. There had been complete constipation. On the morning of admission, a small quantity of blood-stained mucus was passed by the anus. A laparotomy was performed. The stomach and duodenum were enormously distended with fluid and gas, the pylorus being widely dilated. The distention ended abruptly where the third part of the duodenum crossed in front of the superior mesenteric vessels, and was sharply twisted round them in a clockwise direction. In this case the cecum had crossed the midline from left to right, and was loosely adherent over the right kidney (incomplete or "malrotation"). The lowest coil of the ileum with its free mesentery was loosely wound around the pedicle of the volvulus and was free from constriction. The entire jejunum and ileum were implicated in the volvulus. The mass was rotated in an anticlockwise direction through about 360 degrees. As soon as the constriction of the duodenum was relieved by untwisting the volvulus, the gaseous and fluid contents of the dilated stomach and upper duodenum passed rapidly down the jejunum, and had entered the ileum before the bowels could be returned to the abdomen. Since the infant was seriously ill from four days of acute duodenal obstruction, it was thought unwise to prolong the operation by fixing the replaced intestines. The abdomen was closed. The child was entirely well at the age of 6 months.

Anaerobic Streptococcus.—The streptococcus described by Jenkins was isolated from an abscess in the lumbar region. The films showed chains of from eight to ten cocci; other organisms were not seen, and an examination for tubercle bacilli by the Ellermann and Erlandsen concentration method was negative. It does not conform exactly to any of the standard varieties. It approximates most closely *Streptococcus equinus*, but it ferments raffinose.

Angioma of Liver in Diabetic Patient.—Brown removed a cavernous angioma weighing 1 pound which was attached to the lower edge of the left lobe of the liver by a peduncle of liver substance about 3½ inches (8.5 cm.) broad and 1½ inches (4 cm.) in thickness, from a diabetic patient, aged 76. The patient was alive and well eighteen months after the operation.

Cause of Terminal Rise of Temperature in Tuberculosis.—Allison cites three cases as proof that the terminal rise of temperature in pulmonary tuberculosis is probably due to excess of tuberculin or other products of the tubercle bacilli, and not to sepsis.

Traumatic Ulceration of Aorta.—Simons' patient swallowed a meat bone, 1 square inch in size, which became impacted in the esophagus at the level of the bifurcation of the trachea. Ulceration extended through its coats into the arch of the aorta. Death was due to hemorrhage, following ulceration into the lumen of the vessel.

Indian Medical Gazette, Calcutta

62: 1-60 (Jan.) 1927

*Neurasthenia in Tropics. H. W. Acton.—p. 1.
*Ketosis in Acute Fevers. H. Hingston.—p. 8.
Parasite of "Dermal Leishmanoid." B. M. Das Gupta.—p. 11.
Simple Method of Dealing with Destructive Lesions of Lids. R. E. Wright.—p. 12.
Treatment of Hepatic Abscess of Amebic Origin. S. N. Hayes.—p. 13.
Injuries of Knee Joint. J. R. Roberts.—p. 15.
Beriberi. A. E. Coyne.—p. 17.
Suppuration of Middle Ear. A. N. Palit.—p. 19.
Case of Fibroneuroma of the Cauda Equina. F. Christian.—p. 23.
Case of Cerebral Abscess Following Otorrhea. M. L. Das Gupta.—p. 25.
Case of Genital Atresia. K. K. Menon.—p. 25.
Case of Acute Glossitis. A. B. de Castro.—p. 26.
Dispensary Treatment of Malaria in India. A. H. Proctor.—p. 36.
Future of Antimalarial Research. R. Senior-White and K. Williamson.—p. 38.

Neurasthenia in Tropics.—Acton points out that neurasthenia is real ill health associated with certain existing causes, and not merely a feeling of ill health. In the tropics there is a further association with certain predisposing causes that are more commonly present than in temperate climates. It is obvious that before a cure can be effected one must first deal with any exciting causes, then remove the predisposing causes, and aid the different endocrine glands that are not functioning properly. It is little use trying to quiet the nerves with bromides, or to aid the functions of the endocrine glands by shotgun prescriptions of the various endocrine products now on the market, before removing the exciting cause.

Ketosis in Acute Fevers.—Hingston fears that it is generally not recognized that ketosis means that an important pathologic disturbance of metabolism is present, and that it is a real indication for special treatment. He is convinced that this disorder of metabolism is the cause of many of the more acute symptoms seen in these fevers and usually attributed to "toxemia." In these cases he administers an alkaline mixture consisting of potassium citrate, 2 drachms (8 Gm.); liquor of ammonium citrate, 2 drachms (7.5 cc.); sodium bicarbonate, 30 grains (2 Gm.); aromatic spirit of ammonia, 30 minims (2 cc.), and water up to 1 ounce (30 cc.). One ounce of this mixture is given in 2 ounces of water every four or six hours, according to the severity of the symptoms and the amount of acetone in the urine. Two drachms of dextrose are given from every two to four hours. In twenty-four hours the acetone has disappeared from the urine, and in the great majority of cases the condition of the patient has vastly improved. The patient is then given a simple alkaline mixture three times a day, and 2 drachms of dextrose every six hours.

Journal of Anatomy, London

61: 153-266 (Jan.) 1927

Development of Sphenoidal Sinus in Man and Its Homology in Mammals. P. H. G. van Gilse.—p. 153.
Arteries of Brain of Orang-Utan. J. L. Shellshear.—p. 167.
*Blood Supply to Peripheral Nerves of Superior Extremity. D. Ramage.—p. 198.
*Development of Duodenum. R. H. Hunter.—p. 206.
Distribution of Elastic Tissue in Blood Vessels of Birds. H. I. C. Pfister.—p. 213.
*Position of Abdominal Viscera in Healthy, Young British and American Adults. R. O. Moody.—p. 223.
Internal Genital Organs of Female Fetus of Fifteen Centimeters Length. A. M. Fleming.—p. 232.
Intramuscular Nerve Elements of Ventricular Muscle. T. Jones.—p. 247.
Anomalies in Development of Salivary Glands. U. V. Nayak and A. A. Ayyar.—p. 261.

Blood Supply to Peripheral Nerves.—The conclusion drawn by Ramage is that the blood supply to the nerves is inconstant. The first law of Quénu and Lejars is contradicted. Their second law is confirmed. It is a rule that each branch divides when near the nerve, and sends a branch proximally and one distally. There are a few exceptions to this rule—notably the branch of the axillary artery, which goes to the point of division of the inner cord of the brachial plexus and extends only distally. In roentgenograms of injected nerves, a continuous chain of vessels can be seen along the whole length of the nerves, and the finer vessels anastomose freely. There is in this quite sufficient evidence to show why nerve trunks can survive after being stripped over a considerable length.

Development of Duodenum.—Hunter asserts that the duodenum, from the developmental point of view, is not simply a part of the small intestine, but is developed separately and is liable to variation without involving other parts of the intestine. The duodenum owes its adult position to three factors acting on the developing intestine: (*a*) A series of differential growth changes leads to the formation of two loops in the primitive straight duodenum. (*b*) The position of these loops is governed by changes that take place in neighboring organs, which force the tube to take a certain form. (*c*) The mesentery disappears after the colon and the duodenum have assumed their adult relations to the posterior abdominal wall. The duodenum and the colon adhere together by a fusion of their peritoneal coats at the point where they cross. The pancreas, far from influencing the form of the duodenal loop, seems to grow along the planes of least resistance and to be molded by the neighboring organs rather than to mold them.

Normal Position of Abdominal Viscera.—To determine the range of the normal position of the abdominal viscera, and to establish a basis for a definite and accurate concept of what may rightly be called ptosis, Moody has examined roentgenographically 1,150 men and women students, not one of whom had a history of chronic gastric or intestinal trouble. He concludes from his observations that long stomachs, with the lowest part of the greater curvature as far as 6 inches (15 cm.) below the interiliac line, the lowest part of the lesser curvature as far as 3 inches (7.5 cm.) below the line and the pylorus as far as 2 inches (5 cm.) below the line, are normal. Cecums with the blind end low in the true pelvis are normal. Livers with the lower border an inch or more below the interiliac line are normal. The ability of the stomach, the colon and the cecum to function normally is independent of their position. These facts, Moody believes, justify the conclusion that enteroptosis, gastroptosis and coloptosis seldom or never exist as pathologic conditions.

Lancet, London

1: 321-372 (Feb. 12) 1927

Poliomyelitis. J. Collier.—p. 321.
Id.: F. M. R. Walshe.—p. 326.
Spa Doctors and Improvement of National Health. R. Ackerley.—p. 330.
*Pulsation in Superficial Veins of Extremities. D. Krestin.—p. 333.
*Spirochetosis Icterohemorrhagica. A. C. Guthrie.—p. 337.
*Case of Meningitis. J. Todesco.—p. 338.

Pulsation in Superficial Veins of Extremities.—A case is described by Krestin of auricular fibrillation, mintral stenosis and adherent pericardium, in which there was remarkable pulsation in all the superficial peripheral veins. The absence of clinical features suggesting gross tricuspid incompetence is noted. The more important causes of general venous pulsation are discussed, and evidence is adduced to show that tricuspid regurgitation is neither a constant nor an important factor. A combination of (1) stasis and engorgement of the right auricle; (2) adherent pericardium, and (3) relative weakness, congenital or acquired, of the walls of the veins is considered the most likely explanation in this case. Finally, it is pointed out that such pulsation need not necessarily affect the immediate prognosis.

Spirochetosis Icterohemorrhagica.—In all cases of jaundice, however mild, Guthrie says examination of the blood for spirochetes should be a routine measure. If they are not found, the blood cells should be examined for degenerative changes, and if these are present, then the agglutination test with stock spirochetes should be performed at once; if this is found positive, the antiserum for this disease should be injected without delay. This treatment has been found wonderfully effective in the early stages of the disease.

Diplococcus in Cerebrospinal Fluid in Meningitis.—In the case reported by Todesco, the cerebrospinal fluid, in addition to containing tubercle bacilli, contained a diplococcus and was turbid instead of clear as is usual in tuberculous meningitis. In cultural characters the organism, on microscopic examination, appeared like a true *Micrococcus tetragenes*, but differed from it on culture and in being nonpathogenic to mice. The lesions of the right cerebral hemisphere were not suggestive of tubercle and, moreover, the diplococcus was recovered on culture from this organ, the spleen, lungs and pericardial fluid. It appears that the child died from a mixed septicemia, due both to the tubercle bacillus and the diplococcus recovered from the cerebrospinal fluid, blood and various organs. Though *Micrococcus tetragenes* is found in suppurative lesions and in the respiratory tract in man, it does not usually cause a septicemia in human beings.

China Medical Journal, Shanghai

41: 1-102 (Jan.) 1927

Pellagra in China. A. C. Lambert.—p. 1.
*Carcinoma in China: Cases Seen at Shantung Christian University Hospital, Tsinan. L. H. Braafladt.—p. 7.
*Malignant Tumors of Breast in Peking. R. H. Meade, Jr.—p. 13.
School Hygiene: Prophylaxis Against Common Eye Infections. D. V. Smith.—p. 18.
Neostam, Stibamine Glucoside, in Treatment of Kala-Azar. E. B. Struthers.—p. 21.
Problem of Venereal Diseases in China. W. L. Teh.—p. 28.
Diagnosis of Early Syphilis. F. K. Chen.—p. 36.
Laws of Variation and Heredity. A. B. D. Fortuyn.—p. 41.
Use of Hypertonic Saline Injections in Treatment of Acute Opium Poisoning. G. H. Pearson.—p. 71.
Hernia of Ovary. A. C. Hutcheson.—p. 73.
Salving of Surgical Dressings. G. Hadden.—p. 77.

Carcinoma in China.—Of 4,799 inpatients of one hospital during a three year period, 144 had cancer, an incidence of 3.1 per cent. Eighty-six were males; fifty-eight were females. Among the men were twenty cases of cancer of the stomach and liver; penis, seventeen cases; esophagus, fourteen cases; skin, thirteen cases. Among the women, the breast, with thirty-seven cases, or 63.7 per cent, was most often the seat of cancer; there were only eight cases of cancer of the generative organs.

Malignant Tumors of Breast in Peking.—Meade analyzes forty-five cases of malignant disease of the breast admitted to the Peking Union Medical College Hospital. During a four year period, forty cases of carcinoma, and five of sarcoma occurred. In thirty-five cases of carcinoma that were treated, fourteen patients were living at the time this report was completed. They had been living for periods varying from two months to five years and four months. Ten had died. Treatment had comprised surgery and radiotherapy combined, or only surgery. Of the five patients with sarcoma of the breast, one patient died during the operation, and the others could not be traced after leaving the hospital. There were two men in this group.

Archives des Maladies de l'App. Digestif, etc., Paris

16: 969-1096 (Nov.) 1926

*Relation Between Form of Thorax and That of Stomach. K. Faber.—p. 969.
*Disturbance of Glucose Regulation in Infectious Diseases. M. Labbé and S. Gavrila.—p. 987.
Clinical and Roentgenologic Study of Duodenal Diverticula. M. Robineau and L. Gally.—p. 1007.
*Anaphylaxis in Intestinal Helminthiasis. R. L. Morenas.—p. 1035.

Relation Between the Shape of the Thorax and That of the Stomach.—Faber's epigastric index is determined by the relation between the length and the width of the epigastrium. (The width is multiplied by one hundred and divided by the length.) The length is measured by a line extending from the navel to the lower end of the sternum. Another line, between two chondrocostal ledges, crosses the middle of the vertical line; this indicates the width of the epigastrium. In persons with a large thoracic perimeter and high epigastric index, the stomach is short and is situated high. In those with a narrow thorax and a low epigastric index, the stomach is elongated and is displaced downward. In women, the dimensions of the thorax, also the epigastric index are smaller than in man; this results in a lower situation of the stomach. Marked narrowness of the chest may be due to a particular constitution or to defective development during growth. Relaxation of the abdominal wall from pregnancy or from loss of weight causes gastroptosis. The latter is frequently complicated by dyspepsia, gastric atony and constipation. Gastric atony in turn entails elongation of the stomach.

Disturbance of Glucose Regulation in Infectious Diseases.—Labbé and Gavrila's observations were conducted on twenty-three patients with an infectious disease, mostly typhoid fever. Tests made on an empty stomach, failed to reveal an abnormal amount of sugar in the blood. On the other hand, the sugar tolerance test always indicated increased glycemia. Glycosuria was noted in almost all patients. The hyperglycemia persisted during convalescence; it usually disappeared two months after defervescence. Changes in the glucose regulation were neither of nervous nor of pancreatic origin. Urobilinuria, present in all patients, amino-aciduria and ammoniuria in 50 per cent proved that insufficiency of the liver was responsible.

Anaphylaxis in Intestinal Helminthiasis.—Morenas used desiccated extracts of helminths (taenia, ascaris) in his experiments on rabbits and guinea-pigs. The extracts were introduced into the animals by various routes. An anaphylactic condition followed, resembling that observed in man. Sensitization induced by the digestive tract did not differ from that induced by the skin or by the vein. Examination of the blood showed eosinophilia. Morenas' theory is that increase of eosinophils and appearance of Charcot's crystals in the blood of patients with helminthiasis testify to sensitization of the organism to parasitic excretions.

Bulletins de la Société Médicale des Hôpitaux, Paris

51: 101-134 (Feb. 10) 1927. Partial Index

Mental Form of Neurosyphilis with Vitiligo. Laignel-Lavastine and J. Vié.—p. 111.
Antitoxic Serum in Treatment of Scarlet Fever. C. Zoeller.—p. 115.
Thrombus of Left Auricle from Endocarditis. M. Renaud.—p. 119.
Auriculoventricular Dissociation and Pregnancy. C. Jeannin and A. Clerc.—p. 122.
Recovery in a Case of Septicemia from Pneumobacillus. P. Lereboullet and M. Pierrot.—p. 128.

51: 135-202 (Feb. 17) 1927. Partial Index

Rôle of Diphtheria Bacillus in Bronchopneumonias. C. Flandin.—p. 135.
Diagnostic and Therapeutic Value of Dick Serum in Scarlet Fever. R. Debré et al.—p. 138.
Polyneuritis and Korsakoff Syndrome During Pregnancy. B. Weill-Hallé and F. Layani.—p. 145.
Deviation of Trachea and Esophagus Following Pneumothorax. E. Rist and F. Hirschberg.—p. 154.
*Nerve Lesions from Osteoarthritis. G. Baillat.—p. 162.
*Comparative Value of Two Diphtheria Antiserums. H. Grenet and J. Delarue.—p. 164.
Intolerance of the Skin to Primroses. H. Eschbach.—p. 185.
*Stomatitis and Azotemic Nephritis in Bismuth Poisoning. C. Aubertin and Destouches.—p. 199.

51: 203-224 (Feb. 24) 1927. Partial Index

Treatment of Splenomegalia in Congenital Syphilis. P. Emile-Weil.—p. 216.

Rheumatic Osteoarthritis Involving the Popliteal Nerve.—Baillat's patient, a man, aged 40, presented paralysis of the external popliteal nerve with osteoarthritis of the knee, on the right side. Injury to the knee during a fall, more than four years before, contributed to localization of the rheumatic lesion in this joint. Paralysis was due rather to a pathologic process in the popliteal nerve itself than to compression by inflamed surrounding tissues.

Comparative Action of Two Diphtheria Antiserums.—Nonpurified antiserum, containing 300 antitoxic units per cubic centimeter, was used by Grenet and Delarue in fifty-three patients with diphtheria. In severe cases at least 100 cc. was injected daily, into the muscle or subcutaneously. This was combined with suprarenal organotherapy. The total mortality was 23.5 per cent; that in the graver forms of the disease, 75 per cent. Another series of sixty-seven patients were injected with diphtheria antiserum of two years' standing, possessing a high antibacterial property, but a low antitoxic titer (150 antitoxic units per cubic centimeter). The antiserum and the suprarenal extract were given in the same doses as to the first series of patients. The total mortality was 13.43 per cent, that in the graver forms about 50 per cent. Disappearance of false membranes was rapid with the antibacterial serum; it was tardy or incomplete with the antitoxic serum. The former serum did not cause any by-effects.

Stomatitis and Azotemic Nephritis in Fatal Bismuth Poisoning.—Aubertin and Destouches observed a case of acute bismuth poisoning in a syphilitic man, aged 37. This occurred after a single intramuscular injection of bismuth. The patient had never been treated for syphilis, except for the chancre, five years before. The bismuth poisoning was characterized by grave stomatitis and azotemic nephritis, ending rapidly in death.

Comptes Rendus de la Société de Biologie, Paris

96: 1-72 (Jan. 14) 1927. Partial Index

*Reflex of the Iris to Light. C. E. Keeler.—p. 10.
*Ultrafiltration of Bacteriophage and Serum Proteins. E. Wollman and E. Suarez.—p. 15.
*Use of Bouillon with Bile for Production of Tetanus Anatoxin. G. Ramon et al.—p. 30.
*The p_H of Culture Medium and Production of Tetanus Toxin. A. Berthelot et al.—p. 32.
*Content of Sulphur in Insulin. A. Boivin.—p. 50.
*Action of Insulin on Naphthalinic Cataract. D. Michail and P. Vancea.—p. 65.
*Vagotomy and Glycemia. V. Papilian and M. Jianu.—p. 70.

Reflex of the Iris to Light in Blind Mice.—A race of blind mice was created through selection of animals deprived of visual cells. Otherwise the retina was unchanged. There was contraction of the iris on exposure to light. The reflex was as rapid as in animals with intact retinal rods.

Ultrafiltration of Bacteriophage and Serum Proteins.—Wollman and Suarez used collodium filters of various degrees of porosity. It appeared that bacteriophage passes easily through a filter of collodion charged with 7 per cent of acetic acid. This filter proved to be impermeable for hemoglobin and serum proteins. Four fifths of the initial content of bacteriophage was retained by adsorption. The smaller were the pores of the filter, the smaller was the amount of bacteriophage found in the filtrate. This shows that the bacteriophagic corpuscles vary in size. The fact that the bacteriophage may pass through a filter which is impermeable for serum proteins indicates that it is blended with coagulable proteins having a greater dispersion than that of serum proteins.

Production of Tetanus Anatoxin by Cultivating Tetanus Bacilli in Bile Bouillon.—Peptonized veal bouillon, such as is used for production of tetanus toxin, was mixed with ox bile. Tetanus bacilli were cultivated therein. Tests with tetanus antiserum, indicated that filtrates of these cultures possess a flocculation power twice or three times as high

as that of control filtrates. The filtrates proved also to have a notable antigen titer, to be harmless and stable. In other words, Ramon, Berthelot, Grasset and Amoureux say, under the influence of bile, tetanus toxin was, in a manner, transformed spontaneously into anatoxin. Further researches proved that various substances, such as, for instance, a mixture of glucose and of acid phosphate, added to veal bouillon, enhance the activity of the tetanus toxin. Tapioca was incorporated in bouillon cultures of tetanus bacilli in a proportion of 0.75 per cent. The toxic activity of the cultures was increased fourfold. Culture mediums having an acid reaction (p_H 6.7), also a high surface tension and viscosity proved most favorable to the formation of tetanus toxin.

The Sulphur of Insulin.—The total sulphur found by Boivin in insulin was from 1.4 to 1.6 per cent. The greatest part was represented by an unstable sulphur, which could be isolated under the form of sulphureted hydrogen.

Action of Insulin on Naphthalinic Cataract.—Rabbits were given naphthalene by the mouth daily. As soon as lesions appeared in the lens, insulin was administered. Naphthalene was continued. Insulin appeared to retard markedly the occurrence of cataract. In another series of animals, insulin treatment preceded and accompanied the administration of naphthalene. Insulin was found to increase the resistance of the animal's organism to acute naphthalene poisoning. In a third series of experiments, naphthalene was given until lesions started in the lens, whereupon it was replaced by insulin. This resulted in disappearance of the lesion in the lens. The cure was transient in some animals, durable in others. The clinical course of some senile cataracts and the course of cholesterolemia in these cases suggest an analogy with naphthalinic cataract. Michail and Vancea believe that at least some senile cataracts may be of pancreatic origin.

Influence of Bilateral Vagotomy on Glycemia.—Severing of both vagus nerves was performed by Papilian and Jianu on ten dogs. The operation was followed by increase of sugar in the blood. There was as much sugar in the veins as in the arteries, frequently even more. Evidently the liver and tissues are involved in the glycemia. The latter continued to rise when epinephrine was injected after the operation. It is presumed that the vagus is a factor in accumulation of sugar in the liver and in the tissues; irritation of the sympathetic liberates the sugar.

Paris, Medical

63: 153-168 (Feb. 12) 1927

Dermatitis from Sensitization to Light. H. Jausion.—p. 153.
*Water, Alcohol and Obesity. M. G. Leven.—p. 164.
*Pneumococcus Nephritis with Hematuria. E. Libert and M. Bariéty.—p. 166.

63: 169-196 (Feb. 19) 1927

Respiratory Diseases in 1927. P. Lereboullet and M. Lelong.—p. 169.
Roentgenographic Aspects of Fibrous Tuberculosis. F. Bezançon et al.—p. 177.
Pathogenesis of Pleuropulmonary Tuberculosis. A. Pissavy et al.—p. 181.
Inflammation of Costal Cartilages in Adolescents. M. G. Huc.—p. 183.
Vaccine Treatment of Bronchopneumonias in Children. L. Duchon.—p. 188.

63: 197-212 (Feb. 26) 1927

Six Cases of Contagious Hiccup in Influenza. Mateesco.—p. 211.
Rôle of Hepatic Amylase in Glycemia. R. Kourilsky.—p. 212.

Water, Alcohol and Obesity.—In Leven's opinion, a water restricted diet is without avail in obesity. Possible loss of weight in this case may be due to dehydration of tissues but not to destruction of fat in the body. Treating obesity by prolonged restriction of water may occasion albuminuria, cardiac disease, cerebral disorders, etc. Abstention from water during meals may be of benefit to obese persons with dyspepsia, since dyspepsia is connected with irritation of the solar plexus and of the nervous center regulating weight. Alcoholic beverages tend to promote obesity. A medical student lost 10 Kg. in two months after alcohol had been excluded from his diet. Alcohol also influences the center of weight regulation by disturbing the digestive function.

Nephritis of Pneumococcus Origin with Hematuria.—Libert and Bariéty describe a case of pneumonia coexisting with nephritis and hematuria in a young man. The abdominal syndrome was characterized by tenderness in the right hypochondrium, constipation and meteorism. There was a pronounced azotemia. Contrary to what is observed in nephritis secondary to pneumonia, edema was absent. The presence of large numbers of pneumococci in the urine suggests that the renal disease was an "elimination nephritis." Treatment consisted in cold packs and in subcutaneous injections of pneumococcus antiserum. The pneumonia ran a normal course. Restoration of renal function was slow. A persisting slight insufficiency of the kidney can be expected in such cases.

Presse Médicale, Paris

35: 193-208 (Feb. 12) 1927

*Hydatid Cysts and Roentgen-Ray Therapy. F. Dévé.—p. 193.
Researches on Bronchopulmonary Spirochetosis. C. Schlossmann.—p. 195.
Form of Senile Liver. J. Delmas.—p. 198.

Roentgen-Ray Treatment of Hydatid Cysts.—Dévé concludes from his experiments that not less than 20,000 Behnken units of roentgen rays are required to destroy hydatids. With the present technic, such a quantity of rays cannot be introduced into the organism without causing serious damage to it. Therefore, he says, the theory of curing hydatid cysts with roentgen rays is merely an illusion or therapeutic hypocrisy. Operation is so far the only rational treatment; it should be performed without any delay.

35: 209-224 (Feb. 16) 1927

Control of Bacterial Vaccines. G. Petit et al.—p. 209.
*Surgery, Diabetes and Insulin. H. Chabanier et al.—p. 210.
Results with Ambard's Ureosecretory Formula. D. D. Van Slyke.—p. 214.

Surgery, Diabetes and Insulin.—Chabanier, Lebert, Lumière and Lobo-Onell use insulin in prevention and treatment of acetonemia in surgical patients with diabetes. In external lesions with diabetes, it may be advantageously employed in general and in local treatment. It can be applied in the form of an ointment or a powder. The ointment is composed of 30 cc. of insulin, 1.5 Gm. of zinc oxide, 45 Gm. of wool fat and 90 Gm. of petrolatum. Compresses with the ointment are renewed daily. If insulin powder is used, a compress with petrolatum is applied above the powdered area. Surprisingly good results were obtained in diabetic patients with operative wounds, trophic ulcerations of nervous origin, varicose ulcers, gangrenes, also with anthrax and furunculosis.

Schweizerische medizinische Wochenschrift, Basel

57: 97-120 (Jan. 29) 1927

Congenital Malformations of Extremities. P. F. Nigst.—p. 97. C'en.
*Preparations from Ergot. A. Stoll and E. Rothlin.—p. 106.
*Action of Ergot. A. Goenner.—p. 110.

Preparations from Ergot.—Stoll and Rothlin are convinced that ergotamine produces the same pharmacologic and therapeutic effects as a good preparation of ergot. Moreover, it is more stable, as long as it remains colorless.

Action of Ergot.—Goenner finds that ergot contains other active drugs beside ergotamine. If the latter fails, he advises that other preparations be tried.

Pediatria, Naples

35: 113-168 (Feb. 1) 1927

Constitutional Types in Children. S. Maggiore.—p. 113.
Vaccine Treatment and Blood Sedimentation. M. Giuffrè and G. Sconza.—p. 127.
Rat Bite Fever. M. Gerbasi.—p. 139.
Pyocyaneus Arthritis in an Infant. A. Pinelli.—p. 147.

Riforma Medica, Naples

43: 97-120 (Jan. 31) 1927

Spondyloses. D. Taddei.—p. 97.
*Chemotherapy of Malta Fever. G. Izar and G. Mastrojeni.—p. 100.
Intestinal Myiasis. G. Franchini.—p. 102.
The Spleen and Carbohydrate Metabolism. L. Quaranta.—p. 102.
Culture of the Sperm in Diagnosis of Gonorrhea. V. Marsellos.—p. 104.
Tertiary Syphilis of the Liver. D. Paternoster.—p. 116.

Chemotherapy of Malta Fever.—Izar and Mastrojeni found that acriflavine dyes have considerable bactericidal influence on bacterium melitense in vitro.

Anales de la Facultad de Medicina, Montevideo

11: 589-640 (Sept.) 1926

The Hepatoduodenal Ligament and the Lesser Omentum. J. C. del Campo.—p. 589.
Gelatine Inclusion. New Technic for Frozen Sections. J. A. Collazo.—p. 595.
*A Skin Test for Trachoma. W. Meerhoff.—p. 615.
Perforation of Ulcer of Meckel's Diverticulum. J. Etchegorry.—p. 621.
Prevention of Measles. J. J. Leunda.—p. 629.

Skin Test in Trachoma.—Meerhoff tried a new skin test on nine trachoma patients. In all the result was negative. The scrapings of the granulations are powdered after being mixed with sodium chloride solution. The skin seems antagonistic to the trachomatous process. Some authors believe that an antagonism exists between tuberculosis and trachoma. At present Meerhoff declines to draw any conclusions from his experiment.

Archivos Españoles de Pediatría, Madrid

11: 5-64 (Jan.) 1927

*Treatment of Spina Bifida. J. González-Meneses y Jiménez.—p. 5.
Education of Mentally Deficient Children. G. R. Lafora.—p. 23.

Treatment of Spina Bifida.—The study of eleven cases of spina bifida, says González-Meneses, reveals that the chief difficulty in the treatment is caused by the high pressure in the cerebrospinal fluid. Congenital syphilis lies at the root of the trouble, though other factors may be involved. In eight of the eleven patients, the Wassermann test proved positive and in another syphilis was evident clinically. The syphilitic lesions may lead to hydrocephalus, especially after operation, and cause death. Operation should be postponed until the cerebrospinal fluid pressure falls below 300 mm. of water with the patient lying down. If conditions permit, antisyphilitic treatment should be given for a few months before resorting to surgery. While the immediate result was good in most of the cases, only one patient is known positively to be well now, nine years after being treated.

Medicina Ibera, Madrid

1: 117-144 (Jan. 29) 1927

Psychogenic Anorexia in Adolescent Girls. G. R. Lafora.—p. 117.
*Familial Achylia. F. Fernández Martínez.—p. 118.

Familial Gastric Achylia.—In twenty or thirty cases Fernández has found anachlorhydria in both parents and children or in two or three members of the family. In one family, the greatgrandmother, the grandmother, four grandchildren and five of thirteen greatgrandchildren had achylia, and the grandmother, grandchildren and one of the greatgrandchildren had other digestive disturbances. The other greatgrandchildren may still be too young to have developed the condition. Several present mental and nervous symptoms. In another family, the mother, three daughters and probably the grandfather and two uncles have achylia and some nervous disturbance.

Revista Esp. de Obstet. y Ginecología, Madrid

11: 521-564 (Dec.) 1926

*Disproved Embryologic Conceptions. V. Conill.—p. 521.
Clinical Control of Congenital Syphilis. J. Muñoz and Arbat.—p. 525.
When to Operate on Puerperal Pelvic Thrombophlebitis. A. Turenne.—p. 532.

Teratologic Observations Which Disprove Embryologic Conceptions.—In a child with celosomia, who died twenty-nine days after birth, necropsy showed the absence of Tourneaux' cloacal membrane. The genital tubercle, however, had developed from the lateral folds. A child with congenital intestinal obstruction, who lived only seven days, discharged apparently normal meconium. At necropsy an intestinal defect was found. As the bile could not pass through the intestine, the prevalent theory that meconium owes its color to bile seems untenable.

Semana Médica, Buenos Aires

34: 129-192 (Jan. 20) 1927. Partial Index

Stovaine-and-Cocaine Spinal Anesthesia. R. Brouca.—p. 129.
Iodine as a Differential Reagent Between Ammonia Salts, Amines and Amides. J. A. Sánchez.—p. 135.
Escudero's Test for Latent Diabetes. F. Puchulu.—p. 135.
*Sodium Thiosulphate for Potassium Cyanide Poisoning. A. Martínez y Martínez.—p. 137.
Analgesia in Labor. Palacios Costa et al.—p. 139.
*Rôle of Carbohydrate Retention in Hypertension. E. S. Weiler.—p. 155.
Standardization of the Wassermann Test in Maternity Hospitals. M. L. Pérez.—p. 157.
Distention of the Bladder and Pseudo-Incontinence Following Spinal Anesthesia. J. Salleras.—p. 159.
Psychopathology of Doubt. J. R. Beltrán.—p. 160.
Ulcer and Cancer of the Stomach at Mayo Clinic. L. O. Zeno.—p. 162.
Spinal Anesthesia. R. F. Coulin.—p. 165.
Earliest Manifestations of Leprosy. L. E. Pierini.—p. 167.

Sodium Thiosulphate in the Treatment of Potassium Cyanide Poisoning.—Martínez' patient had taken an unknown quantity of potassium cyanide. Intravenous treatment with 30 per cent sodium thiosulphite was instituted shortly afterward. Improvement was almost immediate. Two injections, of 10 cc. each, were given. Cardiac tonics and dextrose solution were also used.

The Rôle of Carbohydrate Retention in Hypertension.—Weiler reviews his work on the rôle of carbohydrate retention in the etiology of arterial hypertension. According to his theory, hypertension, as well as obesity and diabetes, is a manifestation of insulin deficiency. Long before Wohl, Weiler had referred to the need of vitamins in diets prescribed for diabetic patients.

34: 193-256 (Jan. 27) 1927. Partial Index

*Acute Osteomyelitis of the Ilium. C. Lagos García and A. Grosso.—p. 193.
Syphilitic Ulcer of the Stomach. J. R. Goyena.—p. 210.
Multiple Fractures from Hypernephroma Metastases. O. Mazzini.—p. 214.
*Monilia Infection of the Mouth. F. L. Niño and A. Puglisi.—p. 222.
*New Species of Hymenolepis. J. Bacigalupo.—p. 229.
Reconstruction of Common Bile Duct by Drain. M. Cieza Rodríguez.—p. 233.
Early Diagnosis of Mycosis Fungoides. C. Seminario and M. Arana.—p. 234.
Surgical Treatment of Rectal Prolapse. V. Pauchet.—p. 239.
Method of Calculating Pelvic Asymmetry. D. Iraeta and C. D. Medina.—p. 245.

Acute Osteomyelitis of the Ilium.—Out of 559 children with acute osteomyelitis, in only ten (1.8 per cent) was the process located in the iliac bones. The age of the patients varied from 7 to 13 years. Six were girls and four boys. Diagnosis is not particularly difficult, the fever, associated with the pain, suggesting an infectious process in the bone. Treatment is essentially surgical. Six patients on whom operation was performed got well; three were lost sight of and one died directly from the infection. The most serious complication is suppurative arthritis of the hip. Ankylosis and dislocation of the joint come next. Destruction of the symphysis is very important from the standpoint of pelvic configuration.

New Oral Monilia.—Miño and Puglisi describe a case of mouth infection caused by a monilia belonging to Castellani's third group. It appears to be a new species and the name of *Monilia buccalis* is suggested. The case proved refractory to alkalis, but it yielded to energetic treatment with iodides. There has recently been recurrence.

New Species of Hymenolepis.—In his investigations in the intestine of man and of rats, Bacigalupo found a new hymenolepis. He gives it the name of *intermedia*, as its characters lie between those of *Hymenolepis nana* and *Hymenolepis diminuta*.

Archiv für exp. Pathologie and Pharmak., Leipzig

119: 129-258 (Dec.) 1926

Excretion of Lead. F. Bricker.—p. 129.
*Acid Resistance of Rabbits. P. Pulewka.—p. 140.
Diuresis and Pituitary Extracts. H. Hoff and P. Wermer.—p. 153.
Cardiac Poisons and Motor Function of the Isolated Intestine. J. Kolda.—p. 165.
Anomalies of Blood Pressure. M. Hochrein.—p. 193.
Pharmacology of Hepatic Vessels. R. Baer and R. Rössler.—p. 204.
Absorption from the Subcutis. F. Donath and B. Tanne.—p. 222.
Ion Displacement in the Blood During Narcosis. E. Brauchli and O. Schnider.—p. 240.
Insulin and Cholesterol. H. Arndt.—p. 254.

The Acid Resistance of Rabbits.—Through a gastric sound Pulewka administered to rabbits 60 cc. of one-tenth or one-fifth normal solution of hydrochloric acid per kilogram of

body weight. Animals that had been on a carrot diet and possessed a high alkali reserve presented a marked decrease of alkali in the blood in from two to seven hours. Hydrochloric acid evinced only a slight influence on the blood alkali in animals that had been on an oat diet and had a low alkali reserve. The acid did not produce harmful effects on the stomach of rabbits that had been fed on carrots, whereas there were severe hemorrhagic erosions of the gastric mucous membrane in animals fed on oats.

Archiv für die gesamte Physiologie, Berlin

215: 1-276 (Dec. 13) 1926

Excitability of the Heart of Cold Blooded Animals. P. Gjurić.—p. 1.
Equations of Adaptation to Darkness. A. S. Achmatov.—p. 10.
Measuring the Forces That Influence Stenosis of the Vocal Cord. T. Kakeshita.—p. 19.
The Larynx and the Sympathetic. T. Kakeshita.—p. 22.
*Physicochemical Processes in Isoagglutination. V. Schröder.—p. 32.
Daily Periodic Variation of Human Life Processes. H. Völker.—p. 43.
*Diabetes and the Action of Insulin. S. Dietrich and O. Loewi.—p. 78.
Lasareff's Law of Dissolution of Scintillations in Peripheral and Central Vision in Monochromatic Light. M. Polikarpoff.—p. 95.
Synthesis of Taste Sensations. E. Baryscheva.—p. 103.
Experimental Studies on the Nervous System. E. A. Spiegel and Ginichi Sato.—p. 106.
Idem.—p. E. A. Spiegel and G. Nagasaka.
Sense of Temperature and Stimulus. H. Hahn and K. Boshamer.—p. 133.
Concentration of Radio-Active Atoms in the Heart of Cold Blooded Animals. H. Zeehuisen and G. M. Streef.—p. 170.
Relation Between the Spleen and Variations in the Number of Erythrocytes. A. Scheunert and F. W. Krzywanek.—p. 187.
The Vitamin Problem. E. Kartascheffsky.—p. 197.
*Nerve Poisons and Gas Exchange of Surviving Organs. E. Abderhalden and E. Gellhorn.—p. 212.
Conduction of Stimulus in the Gastro-Intestinal Canal. E. Gellhorn and K. Weidling.—p. 219.
Idem. K. Weidling.—p. 235.
Permeability of Muscles. E. Gellhorn.—p. 248.
Visceral Innervation and Chemistry of Secretory Processes. D. Alpern.—p. 261.
*Influence of the Thyroid Hormone on Phagocytosis. W. Fleischmann.—p. 273.

Physicochemical Processes in Iso-Agglutination.—In cataphoresis experiments with human blood of the four different groups, Schröder found that iso-agglutination was accompanied by decrease in the charge of the erythrocytes. The same phenomenon was observed in agglutination produced by acidification. Nephelometric investigations showed that the ratio between albumin and globulin was the same in all four groups.

Diabetes and the Action of Insulin.—In experiments on fasting rabbits Dietrich and Loewi found that repeated venesections increased the blood sugar and were followed by the appearance of a substance in the blood plasma which inhibited the fixation of dextrose to the erythrocytes. The blood sugar curves paralleled the inhibitory effect of the corresponding plasmas. This appearance of inhibiting substances in the blood plasma and epinephrine hyperglycemia were almost completely prevented by injection of ergotamine. The authors explain the effect of insulin by its favorable influence on the fixation of dextrose to the erythrocytes, which is followed by accelerated transformation of dextrose. The diabetic symptoms are caused by an inhibitory body in the blood plasma, which prevents fixation of dextrose.

Influence of Specific Nerve Poisons on the Gas Exchange of Surviving Organs.—Abderhalden and Gellhorn observed that muscle and liver tissue of frogs, suspended in a solution of sodium phosphate, consumed oxygen under the influence of parasympathetic poisons: (physostigmine, pilocarpine, choline, atropine and epinephrine). When the experiments were performed on muscle tissue the nerve endings of which had undergone degeneration from section of the corresponding nerves, the oxygen consumption was considerably decreased.

Influence of the Thyroid Hormone on Phagocytosis.—In a rabbit from which the thyroid had been removed, Fleischmann increased the phagocytic capacity of exudate leukocytes by implantation of a thyroid gland or administration of thyroid extracts. The experiments show that phagocytosis is dependent on the internal secretion.

Beiträge zur Klinik der Tuberkulose, Berlin

65: 193-448 (Dec. 31) 1926

This issue contains the proceedings of the German Tuberculosis Society at its meeting in Düsseldorff, May 28 and 29, 1926.

Biochemische Zeitschrift, Berlin

179: 263-492 (Dec. 27) 1926. Partial Index

Determination of Free and Bound Benzoic Acid. E. M. P. Widmark.—p. 263.
*Influence of Food on the Synthesis of Hippuric Acid in Man. E. M. P. Widmark.—p. 272.
A New Microcolorimeter. H. Kleinmann.—p. 276.
Microcolorimetric Determination of Nitrogen. H. Kleinmann.—p. 287.
The Nephelometer. H. Kleinmann.—p. 301.
Katalase in the Blood in Experimental Anemia. A. Bernstein.—p. 304.
Influence of Food on Katalase in the Blood. A. Bernstein.—p. 313.
Bindings in the Protein Molecule. W. S. Ssadikow.—p. 326.
*Gas Exchange in B Avitaminosis. B. A. Lawrow and S. N. Matzko.—p. 332.
Spectrophotometric Studies on Hemoglobin. V. Zilzer.—p. 348.
Scatoxyl Sulphuric Acid in the Urine. G. Scheff.—p. 364.
Gas Exchange of Tissue Explants. F. Wind.—p. 384.
A New Series of Buffer Solutions. J. M. Kolthoff and J. J. Vleeschhouwer.—p. 410.
*Inorganic Constituents in the Pancreas and Suprarenals. H. Marx.—p. 414.
Chemistry of the Brain. K. Singer.—p. 432.

The Synthesis of Hippuric Acid in the Human Organism.—Widmark administered perorally daily doses of 1 Gm. of sodium benzoate to a healthy person, under varying conditions of nutrition. Examinations of the urine indicate that hippuric acid synthesis probably depends on the composition of the food and is favorably influenced by the presence of carbohydrates.

Gas Exchange in B Avitaminosis in Birds.—Lawrow and Matzko compared the gas exchange in hens on normal diets (buckwheat and oats) and on a diet consisting of polished rice. They noted an increase in the oxygen consumption and production of carbon dioxide after prolonged administration of polished rice, whereas these factors remained constant when the diet was normal. A bird that died with symptoms of avitominosis presented marked deposition of fat in the heart and abdominal cavity. The avitaminosis was not accompanied by decrease in the oxidizing capacity of the organism.

Inorganic Constituents in the Pancreas and the Suprarenals.—Marx's analyses show that the pancreas contains more potassium and magnesium, but less calcium and water than do the suprarenals. The percentages of sodium were almost the same in both organs. The ratio between potassium and calcium was higher in the pancreas than in the suprarenals.

Deutsche medizinische Wochenschrift, Berlin

53: 133-178 (Jan. 21) 1927

*Medical Significance of Cathode Rays. W. E. Pauli.—p. 133.
*Typhoid Epidemics. F. Wolter.—p. 135.
*Herpes and Smallpox Immunity. E. Gildemeister and K. Herzberg.—p. 138.
Serology and Protein Treatment. H. Sachs.—p. 140.
Micro-Sedimentation Test. R. Stolzenbach.—p. 141.
Roentgen-Ray Study of Hypersecretion. J. Gefen.—p. 143.
Ileus from Tenia. P. Herszky.—p. 144.
Astereognosy and Drumhead Hemorrhage in Encephalitis. M. Kastan.—p. 145.
*Metrorrhagias from Digestive Disturbances. A. W. Bauer.—p. 146.
Vaccination and Sore Throat. G. Koch.—p. 148.
Biology of Reticulo-Endothelium. W. Schulemann.—p. 149.
Treatment of Hemoptysis. H. Grau.—p. 150.
Treatment of Hematemesis. F. W. Strauch.—p. 153.
The Medical Faculty Budget. P. Wolff.—p. 155.
Regulations for Physicians. S. Alexander.—p. 157.
Medical Faculty at Shanghai-Wusung. E. Birt.—p. 159.
German Hospital in London. F. P. Weber.—p. 161.

Medical Significance of Cathode Rays.—Pauli calculates that, with an equal consumption of current, cathode rays will produce a biologic effect four million times as strong as roentgen rays, provided this effect is proportional to the amount of radiant energy absorbed by the tissue. Exposure for one second was sufficient to kill not only bacteria, but also spores which were resistant to three hours' exposure to steam. Superficial ulcers in animals yielded to the treatment.

Typhoid Epidemics.—Wolter is still an orthodox believer in Pettenkofer's localistic theory, or, as it had been designated by Voit, the theory of local and temporal conditioning of epidemics, especially in regard to the ground water. He believes that a good sewage system is the only successful way to fight typhoid. Care for the water supply alone is not sufficient.

Herpes and Smallpox Immunity.—Gildemeister and Herzberg inoculated guinea-pigs with herpes and smallpox virus in the foot. They induced a partial, but specific crossed immunity.

Metrorrhagias from Digestive Disturbances. — Bauer believes that constipation and atonia of the stomach are the most frequent causes of chronic hyperemia of the pelvic organs and of atypical uterine hemorrhages. In atonia of the stomach he prescribes strong coffee and bouillon, roast meat (moderately spiced) and charged water instead of tap water. Saline laxatives are much better than pills, which only increase the congestion of the pelvic organs.

Klinische Wochenschrift, Berlin

6: 97-144 (Jan. 15) 1927

The Skin as Organ of Immunity. F. v. Gröer.—p. 97.
Complex Antigens. K. Landsteiner.—p. 103.
*Ketonuria from Insulin Overdosage. F. Mainzer.—p. 107.
*Regeneration of Skin. D. Adlersberg and A. Perutz.—p. 108.
Compression of the Carotid. E. Schroeder.—p. 110.
Chromodiagnosis of Hepatic Function. F. Reiche.—p. 112.
Intrauterine Implantation of Ovary. O. Herschan.—p. 114.
Diagnosis of Cancer and Tuberculosis from Puncture Material. H. Müller.—p. 116.
Dark Blue Reaction of Cerebrospinal Fluid. H. Rosenfeld.—p. 118.
Estimation of Blood Sugar. E. Kaufmann.—p. 119.
Hypoglycemic Action of Sulphur. E. Bürgi and T. Gordonov.—p. 119.
*Bacterial Lipoids as Antigens. A. Klopstock and E. Witebsky.—p. 119.
*Immunization with Alcoholic Extracts of Bacilli. A. Klopstock.—p. 120.
Mechanical Origin of Gastric Ulcer. G. Domagk.—p. 120.
Cathartics. G. Ganter.—p. 123.
Culture of Human Cells in Vitro. A. Lemmel and H. Löwenstädt.—p. 126.
Shortest Ultraviolet Rays in Solar Spectrum. H. Meyer.—p. 143.

Ketonuria from Insulin Overdosage.—Mainzer observed acetonuria in two diabetic patients on a day when they became hypoglycemic. He relates the acetonuria to the alkalosis (the alkali reserve 86 per cent) induced by the overdosage of insulin.

Regeneration of Skin.—After obtaining favorable results in treatment of ulcers produced by sulphuric acid in rabbits, Adlersberg and Perutz tried local application of insulin in chronic ulcers of the leg and in burns. They failed in a patient with a tuberculous anal fistula and in another with ulcerations near a fungus of the talocrural joint, but had excellent results in eight other patients. From 20 to 30 drops of insulin were applied to the ulcer and covered with a petrolatum dressing. This treatment did not lower the blood sugar in animals.

Bacterial Lipoids as Antigens. — Klopstock and Witebsky obtained antibodies by injecting rabbits with alcoholic extracts of proteus X_{19} and tubercle bacilli. The antiserums react with almost any lipoids, although there seems to be some degree of specificity. They believe that the extracts probably contain some alcohol-soluble protein beside the lipoids.

Immunization with Alcoholic Extracts of Bacilli.—Klopstock injected rabbits with mixtures of alcoholic extracts of horse kidney (Forsman's antigen) and alcoholic extracts of proteus X_{19}. The serum obtained contained the heterogenetic antibody. This speaks for the presence of a vehicle in the bacterial extract. It was noted that such serum does not contain antibacterial substances.

Medizinische Klinik, Berlin

23: 41-80 (Jan. 14) 1927

Autohemotherapy. J. Vorschütz.—p. 41.
Chromoscopy of the Stomach. M. Gutmann and E. Kohn.—p. 45.
*Degkwitz' Measles Serum. C. Baron.—p. 48.
Muscle Signs in Pulmonary Tuberculosis. T. Sternberg.—p. 49.
*Local Anesthesia by Compression. J. Urbach.—p. 50.
Syphilis and the Sedimentation Test. O. H. Adler.—p. 50.
Treatment of Basal Cell Epithelioma. L. Loewenstein.—p. 53.
Aspiration of Foreign Body. B. Fisher.—p. 55.
*Lumbar Puncture in Vomiting in Infancy. L. Goldschmidt.—p. 57.
Resuscitation in Carbon Monoxide Poisoning in Monkeys. S. Jellinek.—p. 57.
Trypanocidal Substances in Hemophilia. Leichtentritt and Opitz.—p. 59.
Tuberculosis of Skin and Soft Parts After Injury. F. Zollinger.—p. 62.
Infectious Diseases and Tropical Pathology. H. Ziemann.—p. 65. C'en.
Survey of Ophthalmologic Literature. P. Carsten.—p. 77.

Degkwitz' Measles Serum.—Baron used this serum in two institutions. All the children, who were injected, as Degkwitz requires, on the ninth day of incubation, developed measles. Moreover, about one-half had more or less grave complications.

Local Anesthesia by Compression.—Urbach found that compression of a fold of the skin causes a local anesthesia which could be used for small interventions, such as incision in acne or cauterization of a wart. Local ischemia is probably the cause.

Lumbar Puncture in Vomiting in Infancy.—Goldschmidt had good results with lumbar puncture in infants and children with vomiting, especially in whooping cough.

Münchener medizinische Wochenschrift, Munich

74: 135-174 (Jan. 28) 1927

Formation of Cells in Tissues. W. von Möllendorff.—p. 135.
*Lipoids of Leukocytes. E. Sehrt.—p. 139.
Volume of Blood Platelets. C. M. Van Allen.—p. 141.
Diabetic and Hypoglycemic Coma. E. Wiechmann.—p. 142.
*Intentional Abnormal Psychic Reactions. Nippe.—p. 143.
Blood Groups in Munich. T. Fürst.—p. 145.
Fluid from Lumbar and Cisterna Punctures. W. Baumann.—p. 148.
*Measles Serum from Animals. H. Zoepffel.—p. 150.
Methenamine and Urinary Infections. H. Schulten.—p. 151.
Elastometry of Tissues. H. Schade.—p. 157.
Squatting Posture in Third Stage of Labor. A. Krämer.—p. 157.
Inspection of the Patient. A. Krecke.—p. 157.
Antisocial Effects of Welfare Work. K. Weiler.—p. 159.

Lipoids of Leukocytes. — Sehrt describes his method of staining lipoids in leukocytes. All the normal blood cells with the exception of lymphocytes contain lipoid granules. He believes that the oxidase reaction is conditioned by them.

Intentional Abnormal Psychic Reactions.—Nippe uses the term "teleophrenic" to designate the abnormal nervous and mental reactions that serve a conscious purpose—such as acquiring an indemnity.

Measles Serum from Animals. — All the children under investigation, who were injected with Degkwitz's alleged protective sheep serum during the incubation period, developed measles. Most of them had complications and almost all of them had serum sickness. The results obtained with injections of adult's serum were much better (protection in five, mitigation in ten out of eighteen children).

Strahlentherapie, Berlin

24: 193-384, 1926

The Compton Effect and Roentgenotherapy. W. Friedrich.—p. 193.
*The Compton Effect in Deep Therapy. H. Wintz.—p. 218.
Stimulating Irradiation in Gynecology. L. Seitz.—p. 227.
Intratumoral Treatment. L. Halberstaedter.—p. 253.
Effect of Roentgen Rays and of Radium on the Teeth and Jaws. M. Leist.—p. 268.
Injury to Offspring from Roentgen Rays. W. Flaskamp.—p. 282.
Idem. R. Dyroff.—p. 288.
Sarcoma of Uterus and Ovaries After Roentgen-Ray Irradiation. E. Vogt.—p. 313.
Treatment of Gonorrhea of the Adnexa with Roentgen Rays. W. Baer.—p. 315.
*Roentgenotherapy of Mastitis. E. Zweifel.—p. 318.
Irradiation of the Entire Human Body. A. von Liebenstein.—p. 324.
*Influence of Roentgen Rays on Acid-Base Metabolism. G. von Pannewitz.—p. 327.
*Roentgenotherapy of Tumors of the Pituitary Gland. J. I. Heinismann and L. J. Czerny.—p. 331.
Roentgenotherapy of Bronchial Asthma. V. Kogan-Jasny and T. Abramowitsch.—p. 336.
The Pirquet Reaction as Influenced by the Roentgen Ray. J. G. Liebersohn and I. I. Schimanko.—p. 343.
Measurement of Roentgen-Ray Dosage. S. Strauss.—p. 348.
The Erythema Dose. G. H. Klövekorn and O. Gaertner.—p. 365.
Standardization of the Fürstenau Intensimeter. W. Röver.—p. 368.
Stimulus Theory and Light Treatment. A. Theilhaber.—p. 372.
Treatment of Rachitis with Ultraviolet Rays. F. Peemöller and F. Dannmeyer.—p. 378.
Repetition of Small Doses. Reply. G. Peter.—p. 382.

The Compton Effect in Deep Therapy.—Experience shows that when different qualities of roentgen rays are used, the skin reaction does not parallel the ionization of the air. Wintz attributes this to the Compton effect, and gives a theoretical explanation of the fact that soft rays are more effective than hard rays. The Compton effect implies that in a large part of the dispersed rays there is an increase in wave length amounting to 0.05 Angström units, according to the deviation. A primary ray deviated from its direction has less penetrating power as a dispersed ray than in its original condition, but dispersed rays which continue in the same direction as the primary irradiation do not show any qualitative changes. The harder the rays, the more marked is the Compton effect. Its influence is: (1) direct, since the biologic effect of hard rays depends in the first place on changes in the quality of the rays caused by the Compton effect, and (2) indirect, influencing the instruments for measuring and the dosage. The Compton electrons participate to a considerable degree in the ionization of the air in hard irradiation, but in the dispersion process there is not any stimulation of molecules, which is considered a preliminary requirement for the effect of the rays.

Roentgenotherapy of Mastitis.—With 20 per cent of the erythema dose and with a focal distance of from 30 to 40 cm., Zweifel irradiated fields slightly exceeding in extent the margins of the inflammation. Equal results were obtained whether copper or zinc filters from 0.5 to 1.0 mm. in thickness or aluminum filters 3 mm. thick, were used. Only one irradiation was given. In mastitis the results were favorable when the irradiation took place as early as possible after the onset. When abscesses had already developed, the irradiation was useless. In the successful cases, pain was relieved and the patients were again able to obtain sleep; the temperature fell from 2 to 3 C. in twenty-four hours.

Influence of Roentgen Rays on the Acid-Base Metabolism.—Pannewitz irradiated in vitro blood serum, albumin and globulin solutions, pus and urine of different origins and reactions. Regular changes in the reaction were noted in irradiated protein solutions only. The changes were characterized by approximation of the hydrogen ion concentration to that of the iso-electrical point. The reaction of the hydrogen ion concentrations and alkali reserve of the blood of irradiated human beings and of rabbits comprised two phases: immediately after irradiation acidosis or hypocapnia occurred, followed from two to five hours later by alkalosis or hypercapnia. The intensity of the reaction depended on the region irradiated and the nature of the reaction on the organ irradiated. The variations in the reaction were least after irradiation of the extremities and greatest after irradiation of the abdominal organs.

Roentgenotherapy of Tumors of the Pituitary Gland.—Heinismann and Czerny's fifteen cases are divided into three groups, (1) cases with symptoms of acromegaly; (2) ophthalmic types; (3) cases with adiposogenital syndromes. Three fields were irradiated, two temporal and one frontal field, with one erythema dose per field. The percentage of the deep dose was estimated at from 28 to 30. The number of irradiations depended on the symptoms, and each was followed by a rest period of about six weeks. The results were good in acromegalic types, but less favorable in ophthalmic and adiposogenital forms. The roentgenotherapy relieved syndromes of intracranial pressure: headache, vertigo, vomiting and general feebleness. Ophthalmologic changes improved, and in one case polyuria, bulimia and polydipsia disappeared.

Wiener Archiv für innere Medizin, Berlin

13: 433-697 (Jan. 15) 1927

*Diet and Diuretics. F. Högler and K. Ueberrack.—p. 433.
*Water and Salt Metabolism After Sweating. J. Daniel and F. Högler. —p. 457.
*Idem. F. Högler and K. Ueberrack.—p. 465.
Inhibition of Diuresis by Infundibular Extracts. J. Daniel and F. Högler.—p. 481.
*Diabetes Insipidus. F. Depisch and F. Högler.—p. 509.
*Water Metabolism in Myxedema and Exophthalmic Goiter. W. Falta and F. Högler.—p. 547.
Edemas of Doubtful Etiology. W. Falta and F. Högler.—p. 641.
*Tolerance to Different Foods in Diabetes. F. Depisch.—p. 653.
Sugar Breakfast in Producing Appetite. F. Depisch.—p. 685.

Diet, Diuretics and Metabolism of Water and Salt.—Högler, Ueberrack and Daniel confirm the influence of the preliminary period on the diuretic action of water, salts, urea and sugar. When the diet had previously been rich in sodium chloride, their action was increased, a salt-free diet lowered or even reversed it. A similar action has been observed in substances which inhibit diuresis (more powerful inhibition after a salt-free diet). Sweating has the same influence as the salt-free diet.

Diabetes Insipidus.—Depisch and Högler's five cases of diabetes insipidus fit into neither the hyperchloremic nor the normochloremic type. Pituitary extracts proved beneficial in all.

Water Metabolism in Myxedema and Exophthalmic Goiter.—Falta and Högler found sodium strongly hydropigenic and potassium and calcium antihydropigenic in myxedema. The water test diuresis was above normal. Preliminary administration of salty food increased the water and salt-water diuresis, while it inhibited it in normal individuals. In exophthalmic goiter patients, the opposite results were seen. They conclude that in these conditions the change is less one of the speed of salt transportation than one of the hydration condition of the colloids of the tissues.

Tolerance to Different Foods in Diabetes.—Depisch tested diabetes patients for their tolerance to proteins, cereals and mixed diets. Cereals alone were tolerated better than a mixed diet. A little over one half of the patients had a higher tolerance for a protein diet than for a mixed diet. The retention of food reserves is one of the sources of error. He believes that over longer periods the tolerance calculated according to the dextrose value of the food might be the same.

Wiener klinische Wochenschrift, Vienna

40: 77-112 (Jan. 20) 1927

*Pneumothorax Treatment. W. Neumann.—p. 77.
*Results with Besredka's Antivirus. E. Epstein and G. Lotheissen.—p. 80.
Hives and Cholelithiasis. H. Schur.—p. 81.
Cavities Healed by Pneumothorax. A. Baer.—p. 83.
Malaria Treatment of Early Neurosyphilis. O. Kauders.—p. 85.
Diseases of Sacro-Iliac Joint. A. Lux.—p. 88.
Backache in Women. F. Kermauner.—p. 93.
Diagnosis of Comatose Conditions. G. Holler.—p. 93.
Treatment of Refractory Syphilis. A. Perutz.—p. 95.
Treatment of Children. H. Januschke. Supplement.—pp. 1-8.

Pneumothorax Treatment.—Neumann observed large exudates in only 6 per cent of his pneumothorax patients. He attributes this favorable result to careful observation of a few minor technical points which he discusses. Too frequent refilling should be avoided. The first time he introduces from 400 to 600 cc. of air (not nitrogen, which irritates, as he thinks). Eight days later he adds from 600 to 800 cc.; after two more weeks about a liter is added. The fourth filling is made three weeks after this and the further refillings at intervals of four weeks. When the pleura becomes thicker, the intervals are prolonged to from six to eight weeks. The needle should be semi-blunt (Denecke) to avoid injury of the lung and subsequent infection. Unless there are adhesions which keep a cavity expanded, he never insufflates above an expiratory pressure of zero, because rupture of adhesions may cause an infection.

Results with Besredka's Antivirus.—Epstein and Lotheissen had excellent results in phlegmons from local application of Besredka's antivirus. In erysipelas and phlebitis the results were negative.

40: 113-148 (Jan. 27) 1927

*Amyl Nitrite Test of Heart Function. D. Scherf.—p. 113.
*Parasitology of Pemphigus. B. Lipschütz.—p. 116.
The Genital Hormone and Growth of the Breast. L. Moszkowicz.—p. 117.
Roentgen-Ray Diagnosis of Peptic Ulcer of the Esophagus. F. Fleischner. —p. 120.
Meinicke Microreaction. L. Feuerstein.—p. 122.
Roentgen-Ray Treatment of Subleukemic Myeloses. G. Kwaszewska.—p. 123.
Treatment of Tinnitus. H. J. Adler.—p. 125.
Diathermy in Fissure of the Anus. W. Zweig.—p. 126.

Professional Secrecy. T. Rittler.—p. 128.
Sedimentation Test. A. V. Frisch.—p. 130.
Diseases of the External Ear. I. Hofer.—p. 132.
Icterus Problem in Clinical Medicine. R. Bauer. Supplement.—pp. 1-16.

Amyl Nitrite Test of Heart Function.—Scherf made electrocardiograms of patients during inhalation of a few drops of amyl nitrite. The drug influences the disturbances of formation and conduction of stimulus to such a degree that it may be used for functional tests. The tonus of the vagus becomes lower, that of the accelerans higher and the circulation in the coronary arteries probably improves.

Parasitology of Pemphigus.—Lipschütz found peculiar formations in the fluid and sections from pemphigus vesicles and in the specimens obtained by puncture of the spleen in patients with pemphigus. He called them "cystoplasma oviforme" and believes that they are protozoons somewhat similar to malaria parasites. Besides these, he found granules which accept methylene azure but not methylene blue from Giemsa's stain. He calls these granules "Anaplasma liberum."

Zeitschrift für Immunitätsforschung, etc., Jena

49: 387-480 (Dec. 23) 1926

The Theory of Chemoreceptors. R. Schnitzer and W. Silberstein.—p. 387.
Idem. R. Schnitzer and Rosenberg.—p. 393.
The Anaphylactic Antibody and Proteins. R. Otto and O. Ornstein.—p. 399.
Serology of Cerebrospinal Fluid. G. D. Aronowitsch.—p. 406.
Binding of Bacteriophagic Lysins by Bacteria. W. Gohs and I. Jacobsohn.—p. 412.
*Thermoresistance of Bacteria. W. Gohs and I. Jacobsohn.—p. 441.
*Differentiation of Enterococci. N. Kovács.—p. 450.
Differentiation of Paracholera Strains from Vibrio Cholerae. N. Kovács.—p. 457.
The Linkage Relation of the Blood Groups. L. H. Snyder.—p. 464. In English.

Thermoresistance of Bacteria.—Gohs and Jacobsohn incubated Shiga-Kruse dysentery bacilli and noted that certain strains resisted a temperature of from 57 to 75 C. for one hour. This increase in thermoresistance of certain strains was probably due to a decrease in the protoplasmic coagulability of the Shiga bacilli, caused by abnormal function of digestive ferments. Two different kinds of bacterial lysis were observed in the cultures, one that produced bacteriophagic lysins and one that did not.

Differentiation of Enterococci.—Kovács differentiates the enterococcus from streptococcus viridans by the fact that the former produces a gray color in the medium when grown on blood-dextrose-agar plates.

Zeitschrift für Krebsforschung, Berlin

24: 223-394 (Jan. 15) 1927

*Infection and Cancer. Teutschlaender.—p. 223.
Rous Tumors. E. Fränkel.—p. 252.
Immunization Against Bacillogenic Tumors. F. Reichert.—p. 255.
*Plant Tumors from Bacilli Isolated from Cancer. F. Kauffmann.—p. 260.
Infectious Origin of Cancer. C. Ritter.—p. 263.
*Cancer of the Liver in a Syphilitic Rabbit. Von Niessen.—p. 272.
*Induced Predisposition to Tar Cancer. S. Beck.—p. 278.
*Tumors from Emulsion of the Spleen. F. Blumenthal and H. Auler.—p. 285.
Interfereometry in Cancer. A. Schmidt-Ott.—p. 292.
Protective Substances Against Cancer. A. Braunstein.—p. 325.
Phylogenetic Cancer Research. A. Greil.—p. 330.
Intratumoral Application of Radioactive Substances. L. Halberstaedter.—p. 360.
*Cure of Experimental Cancer by Fermentation. G. H. Jacubson.—p. 364.
Spontaneous Recovery from Cancer. O. Strauss.—p. 367.

Infection and Cancer.—Teutschlaender emphasizes the fact that decisive evidence of an infectious etiology of cancer has not been published so far.

Plant Tumors from Bacilli Isolated from Cancer.—Kauffmann produced tumors in sunflowers by inoculating the plant with a culture of bacilli which he isolated from mouse cancer. The bacilli were of the tumefaciens type.

Cancer of the Liver in the Rabbit.—Niessen observed an adenocarcinoma of the liver in a rabbit that had been infected with syphilis three years previously.

Induced Predisposition to Tar Cancer.—Beck injected mice and rabbits intravenously with an emulsion of tar over a period of several months. Intracutaneous injections of tar in these animals induced tumors, half of which developed into cancer. Controls that had not been injected intravenously reacted only with a transitory proliferation of the epithelium.

Tumors from Emulsion of the Spleen.—Blumenthal and Auler induced formation of tumors in rats by injection of an emulsion from the spleen of rats that had tumors. The spleen did not contain any demonstrable metastases.

Cure of Experimental Cancer by Fermentation.—In rats with adenocarcinomas Jacubson injected various species of saccharomyces, partly in pure culture, partly in association with mycoderma. He observed complete recovery in those that survived. Some of the saccharomycetes induced such an immediate and powerful fermentation of blood sugar that the rats died during injection. The mycoderma acts by destroying the alcohol and lactic acid formed.

Zeitschrift für Kreislaufforschung, Dresden

19: 1-48, 1927

*Tonus of Depressors and Circulation. H. E. Hering.—p. 2.
Gumma of Myocardium in Congenital Syphilis. K. Oberhammer.—p. 9.

Tonus of Depressors and Circulation.—Hering uses the term "blood pressure brakes" (Blutdruckzügler) for those centripetal vascular nerves that are stimulated by the blood pressure and cause its reflex lowering. He added the "sinus nerves" (from the carotids) to the two aortic nerves which had been known before. Other arteries seem to be without such nerves. The blood pressure increases somewhat after ligation of one carotid. It increases much more if the carotid is ligated after previous denervation of the other "sinus nerve" and of the aorta. This increase in blood pressure after denervation speaks for a permanent tonus of these "brakes" and indicates that they not only lower a high pressure, but probably also increase a low pressure.

Zentralblatt für Chirurgie, Leipzig

53: 3209-3264 (Dec. 18) 1926

*Danger of Exploratory Puncture in Pyopneumothorax. H. Hilgenreiner.—p. 3209.
*Backache as First Symptom of Cancer of the Breast. E. Liek.—p. 3212.
Orchidopexy for Cryptorchism. A. Gabay.—p. 3213.
Insulin-Dextrose Treatment of Shock. S. L. Beresow.—p. 3214.
Pancreatic Calculi. G. Mráz.—p. 3217.
Faulty Methods of Amputation Below the Knee. Zur Verth.—p. 3218.
Roentgen-Ray Diagnosis of Duodenal Ulcer. A. Leb.—p. 3220.

Danger of Exploratory Puncture in Pyopneumothorax.—In Hilgenreiner's case exploratory puncture in pyopneumothorax in a boy, age 16 months, was followed promptly by emphysema and rapid spread of the phlegmonous process, so that within a few hours the child's life was in danger. A number of operations were performed, but the suppuration did not stop until the removal of a head of wheat, 5 cm. long, which appeared in the pulmonary fistula six months after the beginning of the illness. It was now recalled that on the day of the original attack of coughing and fever, which preceded the puncture by two weeks, the child had been playing with heads of wheat. Severe coughing, which had been present at the time of and after the puncture, had forced air and pus into the tissues. Hilgenreiner discusses the manner in which the pneumothorax was converted into a pyopneumothorax by the exploratory puncture. The head of wheat, acting like a valve, played a part, but he warns that the use of a large drain or the removal of a large amount of pus might have a like effect and bring about a similar grave complication.

Backache as First Symptom of Cancer of the Breast.—Liek reiterates Hippocrates' demand that the physician shall examine the entire man, not merely the region of the supposed lesion. A woman, aged 36, was sent to him under suspicion of simulating her symptom, backache of several months' standing. Examination, including roentgenography (this was in 1910), was negative. A month later the woman was sent to him again; the backache was more severe. On this occasion he had the woman strip and at once noticed that one nipple was higher than the other. A walnut sized scirrhus was present. Early metastasis in a lumbar vertebra was doubtless the cause of the pains in the back. He has since

seen two further cases in which backache was explained by a hitherto unrecognized breast cancer.

53: 3265-3422 (Dec. 29) 1926

*Modification of Hallus Valgus Operation. M. Meyer.—p. 3265.

A New Modification of the Hallux Vulgus Operation.—Meyer cuts out a step in the first metatarsal, just beneath the head, and moves the head up on this step, toward the tarsus and the little toe. By this method the bone is shortened, the direction of the axis corrected and the interosseous space filled out.

Meditsin. Obozr. Nizhn. Povolzhya, Astrakhan

5: 3-108 (Nov.-Dec.) 1926. Partial Index

Determination of Tissue Respiration. E. N. Kogan.—p. 3.
Physicochemical Study of Dyspnea. S. I. Telyatnikoff.—p. 12.
*Influence of Quinine on Agglutination Titer of Serums. B. I. Kurochkin and K. G. Emelyanchik.—p. 25.
Pregnancy as Biologic Phenomenon. N. I. Kushtaloff.—p. 31.
Nervous Origin of Congenital Deformities. A. T. Lidskiy.—p. 44.
*Rebellious Hiccup with Malaria. G. A. Khachikoff.—p. 65.
Primary Syphilis of the Eye. L. E. Kremenchugskaya.—p. 69.

Influence of Quinine on Formation of Agglutinins in Human Blood Serum.—Experiments were made by Kurochkin and Emelyanchik on sixteen volunteers, aged from 21 to 25. The men were inoculated with typhoid vaccine, injected subcutaneously on two occasions, seven days apart. One series of the volunteers was given quinine during the eight days of immunization and during eight following days. Another series was treated in the same way, except that they were also given quinine during the forty-five days preceding the immunization. Quinine hydrochloride was administered in a daily dose of 0.3 Gm. by the mouth. The agglutination titer of the blood serum of those treated with quinine was lower than that of the controls' serum. The longer the quinine treatment continued, the less was the amount of the agglutinins in the serum.

Two Cases of Rebellious Hiccup of Malarial Origin.—The cases observed by Khachikoff occurred in men, aged 45 and 50. In both instances, the hiccup occurred very frequently (every four or five minutes); it was accompanied by fever, and resisted the usual measures of treatment. The fact that the patients lived in a place where malaria was endemic and that they had fever suggested quinine treatment. This cured the hiccup. One patient was given 0.2 Gm. of quinine hydrochloride every two hours, five times a day, by the mouth. The other was injected subcutaneously twice a day (quinine, 3 Gm.; antipyrine, 2 Gm.; water, 5 Gm.). The hiccup appeared to be the result of the action of malarial toxin on the central nervous system. Khachikoff is aware of only one similar case, described by Ovchinskiy.

Hospitalstidende, Copenhagen

70: 1-28 (Jan. 6) 1927

*Follow-Up Examinations of Patients Operated on for Cholelithiasis. E. Dahl-Iversen.—p. 1.
Invagination of Colon into Colon. H. J. Panner.—p. 14.

70: 29-52 (Jan. 13) 1927

Isoagglutination in Children of Parents of Type IV. O. Thomsen.—p. 29.
Raynaud's Disease with Insufficiency of the Suprarenals. E. Rud.—p. 45. C'td.

Follow-Up Examinations of Patients Operated on for Cholelithiasis.—Dahl-Iversen reexamined 156 cholecystectomized and forty cholecystostomized patients from one to thirteen years after operation. The recurrences after each operation were 19 per cent. There are not any suggestions that cholecystectomy increases the danger of ascending infection of the biliary tract.

70: 73-96 (Jan. 27) 1927

*Raynaud's Disease with Insufficiency of the Suprarenals. E. Rud.—p. 73. C'cn.
Otolithic Organs and Cervical Musculature in Pigeons. A. Thornval.—p. 81.
Growth of Liver and Pancreatic Tissue in Vitro. O. Kapel.—p. 90.

A Case of Raynaud's Disease with Suprarenal Insufficiency.—Rud reports the case of a man, aged 26, who had suffered since childhood from vasomotor-trophic neurosis, which during the last year was manifested as typical Raynaud's disease. At the same time there were signs of suprarenal insufficiency and impotentia coeundi. The other endocrine organs did not show any abnormalities. The Wassermann reaction was negative and the Pirquet reaction positive after forty-eight hours. The hemoglobin was 103 per cent and the erythrocytes numbered 5,170,000. The hands were pale and lead colored, but, when warmed, changed to a bluish-red or red color. There was thickening of the skin of the fingers and the palms and a slight flexion contracture of the finger joints. The finger capillaries showed marked differences in dilatation during the syncopic and the asphyxial stages. The author concludes that disturbances of the vegetative nervous system, i. e., vegetative neurosis, were also present. Besides general treatment, the patient was being given thyroid and pituitary extracts, sometimes combined with epinephrine.

Hygiea, Stockholm

89: 65-96 (Jan. 31) 1927

*Acute Potassium Bichromate Poisoning. E. Jonsson.—p. 84.

A Case of Acute Potassium Bichromate Poisoning.—Jonsson reports the case of a man, aged 75, who inadvertently and on a fasting stomach swallowed a quantity of a 5 per cent solution of potassium bichromate containing between 1 and 1.5 Gm. of potassium bichromate. After a short time, vomiting and diarrhea set in. The feces were of a green color and did not contain blood. Between six and seven hours later the patient developed painful convulsions of the arms and the legs. The heart function was regular, the pulse 90, but rose to 120 after defecation. The hemoglobin was 85 per cent, the erythrocytes numbered 4,780,000 and the leukocytes 6,400. Dyspnea and retention of the urine were present. The treatment consisted of administration of camphor and olive oil and intestinal lavage. The tonic convulsions of the legs were favorably influenced by subcutaneous injection of 500 cc. of sodium chloride. Two days after the poisoning, the patient was catheterized and 125 cc. of red-brown urine was obtained. The urine contained sugar, albumin, erythrocytes and leukocytes. The nonprotein nitrogen was 0.268 per cent. A few days later the diarrhea ceased and the secretion of urine became satisfactory. Venesection was twice performed and 150 cc. of blood was withdrawn on each occasion. After about six weeks the patient was discharged in normal condition, except for low blood pressure and cardiac arrhythmia.

Ugeskrift for Læger, Copenhagen

89: 91-110 (Feb. 3) 1927

*Gastric Tetany. E. Samuelsen.—p. 91.
Treatment of Influenza. J. Stürup.—p. 97.
Influenza Prophylaxis. S. N. Vendel.—p. 98.

Gastric Tetany.—Samuelsen employs the following therapy: Gastric lavage is performed during the attacks of vomiting in order to remove large amounts of retained gastric contents. The patient is kept on a water or oatmeal soup diet and remedies that provoke acidosis are given. Calcium chloride is particularly useful for this purpose, since, without increasing the amount of total calcium in the blood, it produces acidosis, manifested by increased acidity of the urine. Calcium chloride reacts with sodium bicarbonate by formation of calcium carbonate, which is excreted by the intestine. The chlorine is bound to sodium and later absorbed by the alkali reserve of the blood. When the attack has ceased, treatment should aim at reestablishing the connection between the stomach and the intestine. Surgery is resorted to in case of pyloric stenosis. Roentgen-ray examinations give valuable suggestions in the diagnosis and therapy of gastric tetany.

89: 111-128 (Feb. 10) 1927

Tumors and Legal Medicine. P. Møller.—p. 111.
*Dosage of "Sanocrysin." K. Secher.—p. 118.

Dosage of "Sanocrysin."—Secher employed doses of from 0.14 to 0.21 (on the average, 0.17) Gm. of "Sanocrysin" per kilogram of body weight in treatment of 300 tuberculous patients. He asserts that the results are more favorable with large than with smaller doses and when treatment is started as early as possible, before chronic intoxication has destroyed the resistance of the patient.

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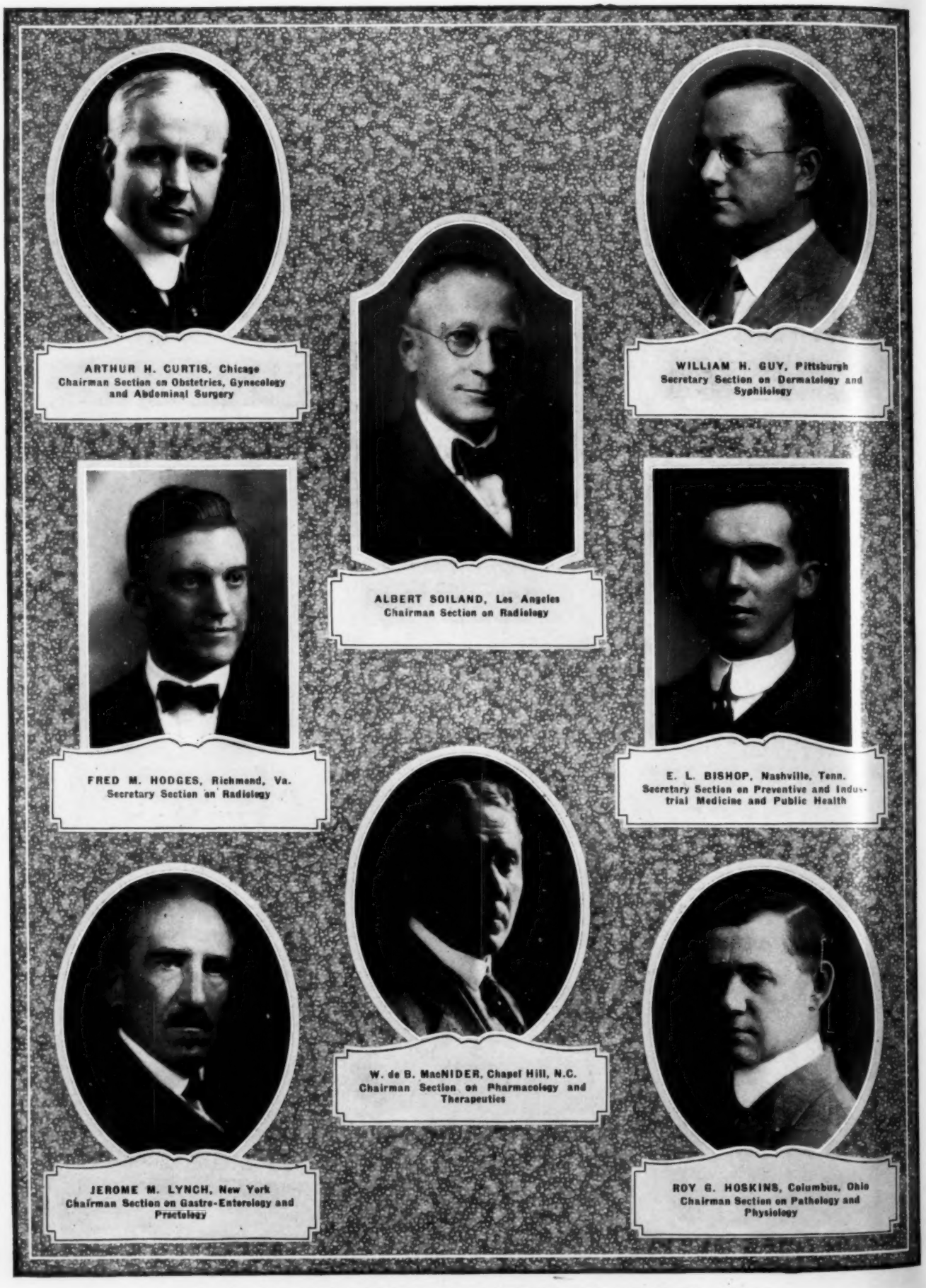
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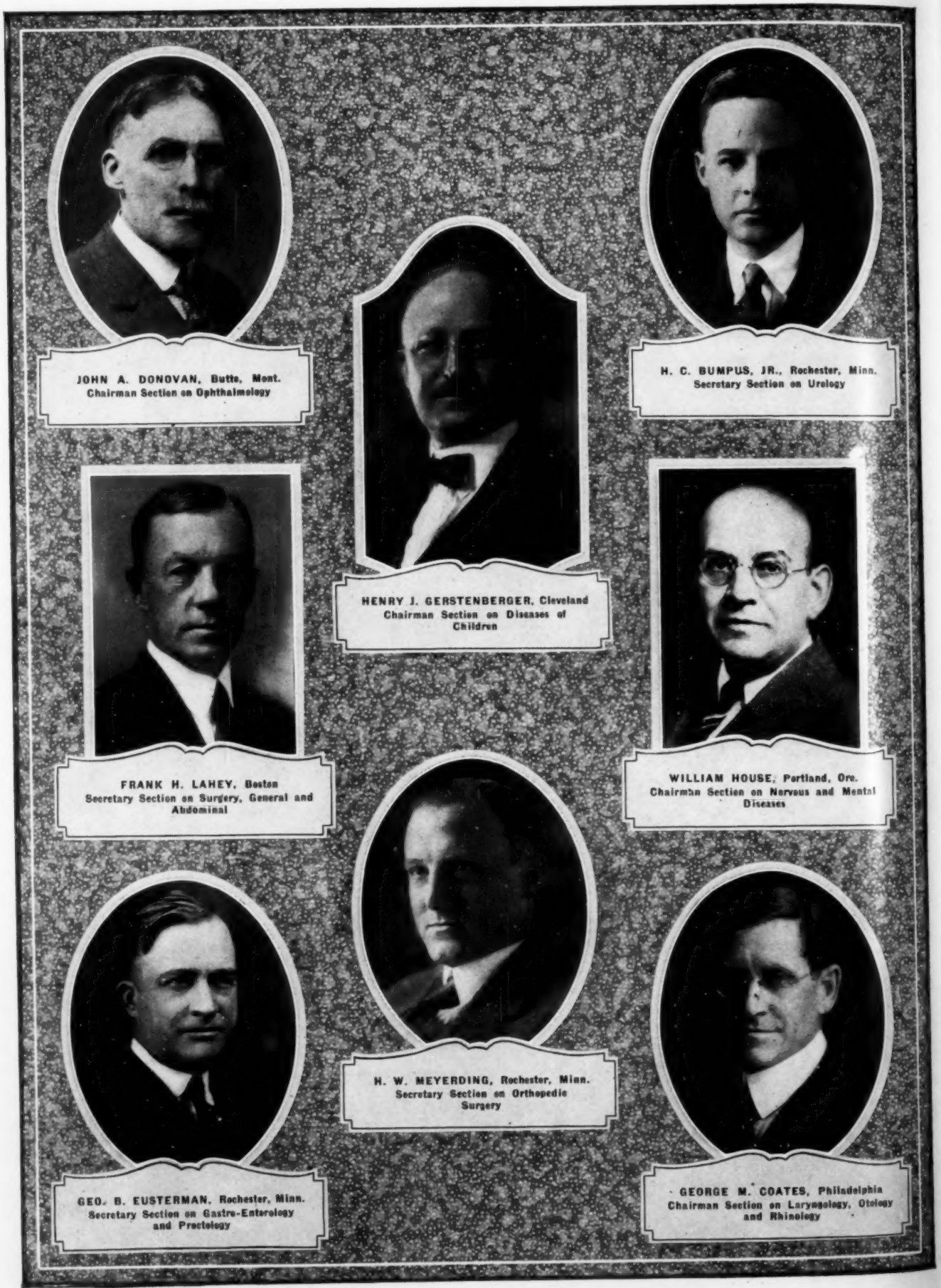
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